

2015

Feasibility Study for the Adaptive Reuse of the Colt Estate Stable

Julie A. Braid

Roger Williams University, jbraid106@g.rwu.edu

Follow this and additional works at: http://docs.rwu.edu/hp_capstone_project



Part of the [Historic Preservation and Conservation Commons](#)

Recommended Citation

Braid, Julie A., "Feasibility Study for the Adaptive Reuse of the Colt Estate Stable" (2015). *Historic Preservation Capstone Projects*. Paper 8.

http://docs.rwu.edu/hp_capstone_project/8

This Thesis is brought to you for free and open access by the School of Architecture, Art, and Historic Preservation Theses and Projects at DOCS@RWU. It has been accepted for inclusion in Historic Preservation Capstone Projects by an authorized administrator of DOCS@RWU. For more information, please contact mwu@rwu.edu.

**FEASIBILITY STUDY FOR THE ADAPTIVE REUSE OF THE
COLT ESTATE STABLE**

Julie A. Braid
Master of Science
Historic Preservation
School of Architecture, Art and Historic Preservation
Roger Williams University
May 2015

SIGNATURE PAGE**Feasibility Study for the Adaptive Reuse of the Colt Estate Stable****Author:** Julie A. Braid

Signature: _____

Date of Signature: _____

Advisor: Jeremy C. Wells, Ph.D.
Assistant Professor of Historic Preservation
Roger Williams University
Bristol, Rhode Island

Signature: _____

Date of Signature: _____

Reader: Arnold Robinson
Director of Community Partnership Center
Roger Williams University
Bristol, Rhode Island

Signature: _____

Date of Signature: _____

Dean: Stephen White, AIA
Dean of the School of Architecture, Art, and Historic Preservation
Roger Williams University,
Bristol, Rhode Island

Signature: _____

Date of Signature: _____

DEDICATION

This capstone is dedicated to my parents, Robert and Anne Marie Braid, who have been my number one supporters from the days of learning my ABC's to the present day. I would not be where I am today without their love, support, encouragement, and words of wisdom they have passed on to me throughout my past twenty-three years. Thank you for helping me find the sunshine in the cloudiest of days. This is for you, I love you both.

ACKNOWLEDGEMENTS

I would like to take this opportunity to acknowledge and thank the individuals who have guided me during the past year to help me not only complete this capstone, but assisting me to get to where I am today. I would like to thank my capstone advisor, Dr. Jeremy Wells who provided me with sound advice and guidance during the capstone process throughout the academic year. I would also like to extend a thank you to my reader, Professor Arnold Robinson, who introduced me to the Colt estate stable through my work with the Community Partnerships Center (CPC) and helped me with the economic factors of this report. His patience, encouragement, and constructive criticism provided me with the skills and knowledge to make this capstone possible. Finally, I would like to thank my academic advisor and professor, Philip Marshall, who has supported and guided me in my academic choices the past five years.

Thank you to CPC staff members, Pedro Ortiz and Jacob Wheeler, for your help in creating all the architectural drawings for the project, as well as, calculating the cost estimating of the project. I appreciate all your hard work and dedication to the project over this year and it was a pleasure to work with you both.

Thank you to all my family and friends who have been nothing but supportive throughout this year. I would like to thank my sister, Alicia, and my fiancé, John for your continuous love and support throughout this process and for always being a phone call away. Finally, I would like to thank coffee. Thank you for always being there for me when I needed you most and never letting me down.

TABLE OF CONTENTS

TITLE PAGE	i
SIGNATURE PAGE	ii
DEDICATION	iii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	viii
ABSTRACT	xi

CHAPTER 1: INTRODUCTION

1.1. Overview of Feasibility Assessment	01
1.2. Historical Background	02
1.2.1 Physical Description	05
1.3 Significance of Samuel P. Colt	07
1.4 Importance of Farming	10
1.4.1 The Need to Save 20th Century Horse Stables	13
1.5 Adaptive Reuse Potential of Structure and Land	14
1.6 Purpose, Benefit, and Limitations of Study	16
1.7 Terminology	19

CHAPTER 2: ASSUMPTIONS, LIMITATIONS, AND ADAPTIVE REUSE SCENARIOS

2.1. Assumptions and Limitations	21
2.1.1 Legal Limitations	25
2.1.1.1 Property	25
2.1.1.2 Land Use	28
2.1.1.3 Comprehensive Plan	28
2.1.1.4. Zoning Ordinance	31
2.1.1.5 Subdivision Ordinance	36
2.1.1.6 Local Historic District and National Register District	40
2.1.2. Regional and Local Factors	42
2.1.3. Political Factors	47
2.1.3.1 Local Government	48
2.1.3.2 State Government	49
2.1.3.3 Federal Government	50
2.1.4. Intervention Tools Available	51
2.1.4.1 Foundations and Non-Profit Organizations	51
2.1.4.2 Local Philanthropist Approach	55
2.2. Adaptive Reuse Scenarios	57
2.2.1. Special Event Venue	59
2.2.1.1. Objectives	60

2.2.1.2. Constraints	64
2.2.1.2.1 Aesthetics	65
2.2.1.2.2 Target Market	66
2.2.1.2.3 Use of Property	66
2.2.1.2.4 Acceptable Partners	66
2.2.1.2.5 Environmental Considerations	67
2.2.1.2.6 Others	67
2.2.1.3. Opportunities	68
2.2.1.3.1 Landscape	68
2.2.1.3.2 Remote Location	69
2.2.1.3.3 Outside Vendors	69
2.2.1.3.4 Rustic Architecture	69
2.2.1.3.5 Space for Outdoor Tent	69
2.2.1.4. Target Market	70
2.2.2. Horse Stable and Training Facility	71
2.2.2.1. Objectives	72
2.2.2.2. Constraints	76
2.2.2.2.1 Aesthetics	77
2.2.2.2.2 Target Market	78
2.2.2.2.3 Use of Property	78
2.2.2.2.4 Acceptable Partners	79
2.2.2.2.5 Environmental Considerations	79
2.2.2.2.6 Other	80
2.2.2.3. Opportunities	80
2.2.2.3.1 Birthday Parties	81
2.2.2.3.2 Group/Private Riding Lessons	81
2.2.2.3.3 Boarding	81
2.2.2.3.4 Camps	82
2.2.2.3.5 Competition Teams	82
2.2.2.3.6 Open Surrounding Land Also Owned by State	82
2.2.2.4. Target Market	83

CHAPTER 3: METHODOLOGY AND ORGANIZATION

3.1. Overview	85
3.2. Organization and Methodology	86

CHAPTER 4: CONDITION SURVEY

4.1. Existing Condition Assessment	90
4.2. Existing Condition Survey	91
4.3. Exterior Existing Conditions	93
4.4. Interior Existing Conditions	99

CHAPTER 5: SCOPE OF WORK

5.1	Scope of Work	103
5.2.	Exterior Scope	104
5.3	Interior Scope	109

CHAPTER 6: FINANCIAL SYNTHESIS

6.1.	Reuse #1: Special Event Venue	114
6.1.1.	Costs (Exterior/Interior/Site)	116
6.1.1.1	Scenario 1A Cost Estimate	117
6.1.1.2	Scenario 1A Cost Estimate Analysis	117
6.1.1.3	Scenario 1B Cost Estimate	118
6.1.1.4	Scenario 1B Cost Estimate Analysis	118
6.1.1.5	Conclusion	119
6.1.2.	Income Forecast	120
6.1.2.1.	Gross Income, Total Expenses, Net Operating Income, Cash Flow	121
6.1.2.4.	Stabilized Year Operating Statement	122
6.2.	Reuse #2: Horse Stable/Training Facility	124
6.2.1.	Costs (Exterior/Interior/Site)	125
6.2.1.1	Scenario 2A Cost Estimate	126
6.2.1.2	Scenario 2A Cost Estimate Analysis	126
6.2.1.3	Scenario 2B Cost Estimate	127
6.2.1.4	Scenario 2B Cost Estimate Analysis	127
6.2.1.5	Conclusion	128
6.2.2.	Income Forecast	129
6.2.2.1.	Gross Income, Total Expenses, Net Operating Income, Cash Flow	130
6.2.2.4.	Stabilized Year Operating Statement	131

CHAPTER 7: CONCLUSION

7.1.	Recommendations for Future Space	133
------	----------------------------------	-----

BIBLIOGRAPHY	135
---------------------	-----

APPENDIX A: Cost Estimates and Operating Statements	137
--	-----

APPENDIX B: Architectural Drawings	149
---	-----

LIST OF FIGURES

Figure 1.1: 1901 Historic Image of Stable	02
Figure 2.1: Poppasquash Historic District (1981)	04
<i>Poppasquash Farm Historic District National Register Form</i>	
Figure 3.1: North Elevation	06
Figure 4.1: Aerial View of Adaptive Reuse Land	15
<i>Google Maps</i>	
Figure 5.2: Property Location	25
<i>www.mainstreetmaps.com/RI/</i>	
Figure 6.2: Zoning Ordinance	32
Table 1.2: Scenario 2A/2B Zoning District	33
<i>Bristol Zoning Ordinance Amendment</i>	
Figure 7.2: Existing Road System and Access Points	38
<i>Bristol Zoning Ordinance Amendment</i>	
Figure 8.2: Bristol Historic District (District in Red)	41
<i>www.mainstreetmaps.com/RI/</i>	
Figure 9.2: Current Poppasquash Historic District	41
Figure 10.2: Population Growth of Bristol	43
<i>Bristol's Comprehensive Plan Chapter 2</i>	
Figure 11.2 Age Distribution of Bristol	43
<i>Bristol Comprehensive Plan Chapter 2</i>	
Figure 12.2: Employment in Bristol	45
<i>Bristol Comprehensive Plan Chapter 2</i>	
Figure 13.2: Exterior of Barn at Gibbet Hill	59
<i>http://www.barnatgibbethill.com</i>	
Figure 14.2: Interior Ceremony space in Gibbet Hill	59
<i>http://www.barnatgibbethill.com</i>	
Figure 15.2: Aerial Interior view at Barn at Gibbet Hill	60
<i>http://www.barnatgibbethill.com</i>	
Figure 16.2: Exterior High Meadow Farm	71
<i>http://www.highmeadowsfarms.com</i>	
Figure 17.2: North Elevation on High Meadow Farm	72
<i>http://www.highmeadowsfarms.com</i>	
Figure 18.4: Existing Condition of North Elevation	92
Figure 19.4: North Elevation	93
Figure 20.4: South Elevation	93
Figure 21.4: West Elevation	94
Figure 22.4: East Elevation	94
Figure 23.4: Chimney View East elevation	95

Figure 24.4: Clapboard Siding Damage North Elevation	96
Figure 25.4: Cupola and weathervane on roof	96
Figure 26.4: 6-over-6 Double Hung Window on North Elevation	97
Figure 27.4: Door and Transom Window North Elevation	97
Figure 28.4: Panel Wood Door North Elevation	98
Figure 29.4: Interior Structural Beams	98
Figure 30.4: Interior Doors and Board and Batten Paneling	100
Figure 31.4: Interior Door facing North Elevation	101

APPENDIX A: Cost Estimates and Operating Statements

Table 2.6: Scenario 1A Cost Estimate	137
Table 3.6 Scenario 1B Cost Estimate	139
Table 4.6: Scenario 2A Cost Estimate	141
Table 5.6: Scenario 2B Cost Estimate	143
Table 6.6: 1A Stabilized Year Operating Statement	145
Table 7.6: 1B Stabilized Year Operating Statement	146
Table 8.6: 2A Stabilized Year Operating Statement	147
Table 9.6: 2B Stabilized Year Operating Statement	148

APPENDIX B: List of Architectural Drawings

E-0.0: Cover Page
D-1.0: Window Detail

Existing Conditions

E 1.1: First Floor
E 1.2: Second Floor
E 1.3: Roof Plan
S-1.0: First Floor Structural Framing Plan
E-2.0: East Elevation
E 2.1: South Elevation
E-2.2: North Elevation
E-2.3: West Elevation

Scenario 1A

A-1.0: Scenario 1A Basement Floor Plan
E-1.1: Scenario 1A First Floor
E-1.2: Scenario 1A Second Floor
E-2.0: Scenario 1A East Elevation
E-2.1: Scenario 1A South Elevation

E-2.2: Scenario 1A North Elevation
E-2.3: Scenario 1A West Elevation

Scenario 1B

A-1.0: Scenario 1B Basement Floor Plan E-1.1: Scenario 1B First Floor
E-1.2: Scenario 1B Second Floor
E-1.3: Scenario 1B Roof Plan
S-1.0: Scenario 1B: Structural Framing Plan
E-2.0: Scenario 1B East Elevation
E-2.1: Scenario 1B South Elevation
E-2.2: Scenario 1B North Elevation
E-2.3: Scenario 1B West Elevation

Scenario 2A

A-1.0: Scenario 2A Basement Floor Plan
E-1.1: Scenario 2A First Floor
E-1.2: Scenario 2A Second Floor
E-1.3: Scenario 2A Roof Plan
S-1.0: Scenario 2A: Structural Framing Plan
E-2.0: Scenario 2A East Elevation
E-2.1: Scenario 2A South Elevation
E-2.2: Scenario 2A North Elevation
E-2.3: Scenario 2A West Elevation

Scenario 2B

A-1.0: Scenario 2B Basement Floor Plan
E-1.1: Scenario 2B First Floor
E-1.2: Scenario 2B Second Floor
E-1.3: Scenario 2B Roof Plan
S-1.0: Scenario 2B Structural Framing Plan
E-2.0: Scenario 2B East Elevation
E-2.1: Scenario 2B South Elevation
E-2.2: Scenario 2B North Elevation
E-2.3: Scenario 2B West Elevation

ABSTRACT

This capstone is a feasibility study for the adaptive reuse of the Colt estate stable in Bristol, RI by analyzing two possible adaptive reuse scenarios. The two scenarios the report focuses on is a special event venue and a horse stable and training facility. The goal of the report is to examine which scenario would be a feasible option for the existing structure while maintaining its historical integrity. Feasibility was determined by analyzing and assessing factors such as assumptions and limitations that are associated with the structure and the adaptive reuse process. Both adaptive reuse scenarios were examined individually to assess the objectives and constraints that corresponds with both scenarios. A financial synthesis was created to compare rehabilitation costs to the income forecast for each scenario. The final recommendation of which scenario would be a feasible solution was determined based on the analysis of the factors and financial synthesis.

CHAPTER 1: INTRODUCTION

1.1 Overview of Feasibility Assessment

Since 1901, the Colt estate stable has served as a prominent structure within the agricultural development for the town of Bristol. Originally built by the Church Overfamily, the stable was purchased by Samuel Colt in 1904 to expand his growing and productive farm by housing his Percheron horses. After serving its purpose as a stable, the structure was acquired in 1965 by the state of Rhode Island. Today, the building remains vacant and will continue to remain unoccupied until the structure is properly rehabilitated and a feasible adaptive reuse scenario is chosen. This capstone examines two different potential adaptive reuse scenarios, both focusing on the rehabilitation of this historic stable into a modern and functional space while coinciding with Bristol's Comprehensive Plan and future development to determine if the space is financially beneficial for the community. Each adaptive reuse strategy is examined with a financial analysis focusing on both rehabilitation costs and an income forecast, as well as, examining the economy, legal limitations, and local factors for the town of Bristol. Once these aspects have been identified and analyzed, they can be used to form guidelines towards making proper recommendations for the Colt estate stable regarding a feasible adaptive reuse option.

1.2 Historical Background

The Colt estate stable was built within the boundaries of the Poppasquash Historic District in Bristol, RI. The stable, originally known as the Church Estate Barn, is located approximately 0.08 miles west of Poppasquash Road. The boundaries of the Poppasquash Historic District

encompasses a large portion

of Bristol's peninsula and

actively houses twenty-

three historic properties,

natural and agricultural

landscapes, and sculptures

associated when the

property was owned by

Samuel P. Colt. Together,

these components cohesively represent the agriculture, architecture, conservation, and social history of Bristol.



Figure 1.1: 1901 Historic Photograph of Stable

This land has served a vital role in the town of Bristol since before Bristol was established as a settlement in 1680. The land was originally occupied by the Wampanoag Indians who used it as a refugee area for women and children.¹ By 1723, the Byfield family owned 660 acres of the property for agricultural use which comprised almost all of the land that makes up

¹ National Register of Historic Places, Poppasquash Farm Historic District, Bristol, Bristol County, Rhode Island, National Register #80000075

the Poppasquash Historic District today.² During that same year, Nathaniel Byfield began the process of dividing his property and selling the land to other farmers and wealthy businessmen. This list included men such as Samuel Viall, Major William DeWolf, Samuel W. Church, and Augustus Van Wickle. In 1903, Samuel Colt purchased the farmland owned by the D'Wolf family, Old Chase Farm located at North Point, and the Church farm. At the time of this land purchase by Colt, the stable was a new structure built in 1901 by Stephen W. Church and John H. Church. The purchase of the 102 acre Church Farm was only one in a series that eventually included 98 acres of the Chase Farm and 105 acres of the Rogers Farm.³ Together, the purchase of these farms culminated in the large landholding of what is present day Colt State Park.

The entrance to the stable was accessible by a road that extended westward from Poppasquash Road and terminated in a sizable circular driveway located in front of the stable. It is assumed that the structure was also connected by another road or pathway from the parent structure, Colt's Dairy Barn, to the south of the stable. Today, this path to the dairy barn no longer exists.

Under the ownership of Colt, his farm was famous for Colt's prize-winning Jersey herd of cattle and Percheron draft horses. On his farmland, Colt did not own any tractors to conduct the agricultural practices, which is why he chose Percheron horses for his agricultural duties. Colt chose Percheron horses because they are known as proud, intelligent and willing workers. They are also known for their ruggedness, power, and strength to pull heavy loads. This type of

² National Register of Historic Places, Poppasquash Farm Historic District, Bristol, Bristol County, Rhode Island, National Register #80000075

³ National Register of Historic Places, Poppasquash Farm Historic District, Bristol, Bristol County, Rhode Island, National Register #80000075

horse averages 15 to 19 hands high and weigh an average 1900-2600 pounds.⁴ The Colt stable was used to house

Colt's Percheron horses resulting in alterations to the interior layout and design of the structure due to their large size.

After Colt purchased the land, he opened it to the public in 1913. During the late nineteenth and early twentieth century, the

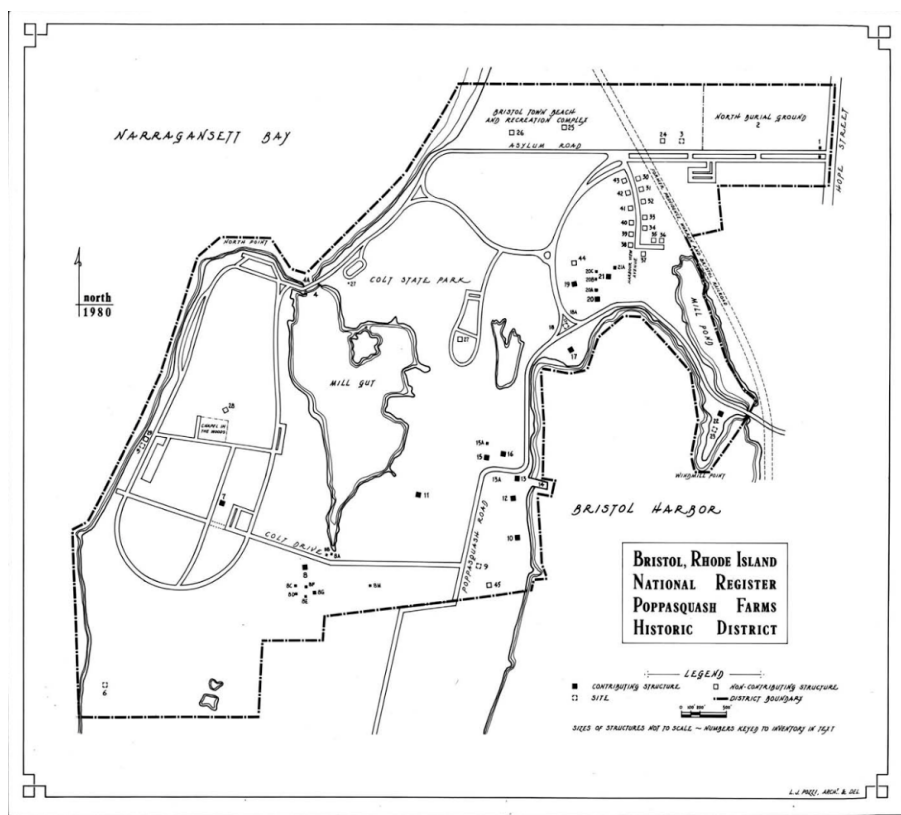


Figure 2.1: Poppasquash Historic District (1981)

land was converted for recreational use. The land was primarily used for agricultural use and owned by Colt until his death in 1921. At that time, the land was owned and operated under the trusteeship of the Industrial National Bank. The structure was acquired and labeled as condemned in 1965 by the Department of Natural Resources and currently remains empty with open interpretations regarding its future use for the space.

Although the stable was built on this land in 1901 and is significant due to its association with Samuel Colt, the land in which the stable was built on represent the role that agriculture

⁴ "Percheron Disposition and Characteristics" Percheron Horse Association of America, Last Modified 2012. <http://www.percheronhorse.org/percheron/default.html>

played as a part of Bristol's history. The stable's architecture is significant based on its construction and character defining features typical of the late nineteenth and early twentieth century New England building techniques. In the beginning of the twentieth century, the land represented a movement in the United States to implement the concept of recreation and green space in industrial spaces; which was part of Colt's vision in opening his land to the public and eventually assisting in establishing Colt State Park.⁵ Although the land gained more recognition and fame once it was purchased and operated by Samuel Colt; the land served for more than three-hundred years as an uninterrupted agricultural source that not only benefited the Bristol community, but the state of Rhode Island as well.

1.2.1 Physical Description

The stable's structure indicates a typical New England style 2-story timber frame structure with a steep pitch front gable roof. The window and entrance configuration are character defining features of this structure that allow the building's original agricultural use to be readable from the exterior of the structure. Builders at this time period were constructing their structures using transom windows and 6-over-6 window configurations to provide more natural light inside the stable. The size of the doors were significant to this stable to accommodate and house the size of the large Percheron horses within the stable. Finally, additional character defining features present within the stable include the centrally placed roof copula, the chimney along the eastern roof slope, and finally the wooden cornice positioned along the roof line.

⁵ "John H Chafee Nature Preserve" State of Rhode Island Division of Parks and Recreation, Last modified 2012. <http://www.riparks.com/History/HistoryJohnHChafee.html>.

The current stable's footprint calculates to 40'x60' running North-South in length on a graded site. The position of the stable exposes the basement level as it extends northwards. The two-story structure has a traditional central barn door entrance on the South elevation. It also has an entrance on the North Elevation, along with the entrance on the South elevation. The window configuration, patterns, and sashes appear to be reflective to the original



Figure 3.1: North Elevation

design of the stable. The conditions of the window varies but overall is in poor condition. Some of the original historic fabric still exists and is present, however the majority of the fabric is deteriorated. The exterior fabric of the structure is constructed of clapboard siding and overall is in poor condition. Clapboard siding is falling off the structure exposing the interior lath work as well as indicating signs of rot.

The South elevation is crowned with a transom window of four, three-over-three sash windows. On the same elevation, on the attic level of the South façade, there is two, six-over-six sash windows. The North façade has a central door on the ground level and a large central hay door in the pediment of the existing structure. Although the door is still part of the structure, the

door is no longer functional as well as showing signs of rot in the board components that construct the door. In comparison to the documented historic image, an additional opening was created to the East of the entrance which is currently present within the structure but was not original to the structure based on the historic photograph.

Overall, the stable is currently in poor condition. As outlined in Chapter 4, which provides a more in-depth description of the stable's existing conditions, the fabric of the structure is deteriorating and missing in some areas, as well as, the structural framing revealing signs of rot. Although the stable appears to have maintained the original characteristics of the structure, based on the historic photograph, these feature's overall condition is in poor condition causing the stable to alter the exterior aesthetics of the stable. The stable's character defining features along with the overall architecture of the structure reflects typical New England timber-framing construction built during the late nineteenth and twentieth century.

1.3. Significance of Samuel P. Colt

During the nineteenth and twentieth century, the family name Colt was a symbol of political, economic, and social status prominently in the Bristol area and throughout the Rhode Island region. Samuel Pomeroy Colt (1852-1921) served as an active member of the Bristol community and dedicated his life in serving as an entrepreneur, politician, lawyer, farmer, and philanthropist. Although he lived in Bristol for the majority of his life, as time progressed, so did his power and responsibility which branched out not only to the New England region but on a national level. In his early years, he dove into the Rhode Island political scene as a representative in the Rhode Island House of Representatives, served as the assistant Attorney General of Rhode

Island, Attorney General, and finally served as a candidate for both governor and U.S. Senator.⁶ During his time in politics, he focused his interests on issues such as promoting women property rights as well as regulating child labor laws. As his political career regressed by several political defeats, he began exploring other professions to occupy his time. In 1886, he founded the Industrial Trust Company, a banking trust that became one of the largest bank corporations in Rhode Island as well as involving himself in the rubber industry.⁷

Colt reorganized the National Rubber Company whose home base was in Bristol, Rhode Island due to the company's bankruptcy status. The National Rubber Company initially was known for manufacturing boots and shoes. In a time span of four years, Colt consolidated the company along with other small rubber companies to create the United States Rubber Company. As the president of the company, his mission was to transform the nationwide rubber industry, to formulate a modern industrial corporation by expanding the size of the factory and the variety of products the factory would manufacture. With the invention and manufacturing of the automobile, the need for rubber was a booming and prominent industry for goods such as tires along with other goods such as footwear, hoses, and flooring material that were now being produced at Colt's rubber factories.

When examining Colt's role as president and his role as a businessman within the rubber industry from the time he acquired the company to when he stepped down to the board, Colt

⁶ John Ingham, *A Biographical Dictionary of American Business Leaders*, (Connecticut, Library of Congress Cataloguing in Publication Data 1983), 184.

⁷ University of Rhode Island, *Guide to Colt Family Papers 1793-1961*: (Special Collections and Archives University of Rhode Island), 1.

increased the capital stock of the company with a profit of \$15 million.⁸ Colt took a company that was initially bankrupt and expanded his company to not only produce more rubber, but a better quality rubber. In return, this increased the need for more employees, providing employment to over 20,000 people especially residents of Bristol, Rhode Island, Connecticut, and Massachusetts.⁹

After his career as a businessman, Colt transitioned into philanthropic partnership concentrated in Bristol. In 1905, Colt purchased and consolidated three family farms owned by the Chase, Church, and Van Winkle family to create a 464 acre waterfront farm property.¹⁰ This land is located within the Poppasquash Farm Historic District and also houses the stable that is the focus of this capstone project. The land was used to accommodate Colt's prize winning Jersey cattle, as well as, the stable which housed his personal collection of Percheron horses due to their large size.

Colt later decided to open this land to the public in 1913. An additional contribution he made to the town of Bristol was building and paying for a public high school as a memorial to his mother as well as contributing a donation for the construction of St. Michael's Episcopal Church in the town as well. Colt remained a resident of Bristol until his death in 1921. After his death, the land was used to create a Rhode Island State Park which was named after Colt entitled, Colt State Park.

⁸ John Ingham, *A Biographical Dictionary of American Business Leaders*, (Connecticut, Library of Congress Cataloguing in Publication Data 1983), 185.

⁹ John Ingham, *A Biographical Dictionary of American Business Leaders*, (Connecticut, Library of Congress Cataloguing in Publication Data 1983), 185.

¹⁰ National Register of Historic Places, Poppasquash Farm Historic District, Bristol, Bristol County, Rhode Island, National Register #80000075

Even after his death, Samuel Colt left his mark on the town of Bristol. His contributions in the town contributed to the town's employment, industry, education, architecture, land usage, and economy. Samuel Colt not only shaped the town of Bristol but impacted the state of Rhode Island and put his stamp in American history. Because of Samuel Colt's significant role in Bristol, it is important to preserve his memory and honor the impact he made in the community during his lifetime. The efforts and changes he made implemented during his lifetime transformed Bristol to be the town we see today. It is important to preserve the contributions he made so that the future residents of Bristol can understand and appreciate the role he served throughout the community.

1.4 Importance of Farming

The economy of the United States began with the family farm and became one of the leading backbones to the American economic system. The nineteenth and twentieth centuries are referred to as the "Golden Era of Small Farms"¹¹ representing the nation's economy; almost half the nation's population lived on a farm up to the turn of the twentieth century. In numerical value, that is approximately six million farms based on the country's population at the time.¹²

In order to create a functional society during the developmental stages of early America, families used the tradition of farming as a security in order for the family to maintain their financial freedom as well as helping meet the needs of their neighborhoods with daily necessities. As time and the development of the country continued, structures related to the

¹¹ Carrie Meyer, *Day's on the Family Farm: from the Golden Age Through Great Depression*, (University of Minnesota Press, 2007), 1.

¹² Carolyn Dimitri, Anne Effland, and Neilson Conklin, "The 20th Century Transformation of U.S. Agriculture and Farm Policy" *United States Department of Agriculture. Economic Information Bulletin* Number 3 (June 2005): 1.

practices of farming reflected a region's farming practices, construction methods, local customs, and ethnic traditions obtained from immigrants of the area. Technological improvements changed the role of farming, which in return also transformed the economy away from agriculture and on to other avenues collectively diversifying the economy of the United States.

At the end of the Civil War, the Industrial Revolution had accelerated the transition from manual labor on the farms began to shift to the use of machinery where agriculture increasingly became commercialized. Farming not only provided the American people with food but also provided families with an income to achieve their version of the "American Dream." Even though the role and need for farming shifted, the importance of farming, in regards to today's society and in our nation's history, remains a vital topic in employment, food production, and economic development.

In New England, farming shaped both the history and the landscape of the community. In the town of Bristol, the land that the Colt stable currently occupies, has a long standing history in regards to both farming and the importance of the landscape. Before Bristol was established in 1685, the Wampanoag Indians occupied the land, referring to it as "Poppoose-Squaw Neck." Over the years, the name Poppoose-Squaw Neck modernizing into the name "Poppasquash." The Wampanoag Indians chose this land because they believed it was ideal farming land due to its extensive salt marshes and fertile soil.¹³ Along with the sea, agriculture also served as one of the leading forms of income for Bristol which was concentrated on the Northeast section of Bristol. Early agricultural farms that developed in the Narragansett Bay area were owned by the Usher,

¹³ National Register of Historic Places, Poppasquash Farm Historic District, Bristol, Bristol County, Rhode Island, National Register #80000075

Coggeshall, Peck, and Church families; all prominent families in Bristol who served as components of the town's historic legacy.

Like the rest of the United States, Bristol exhibited changes in both farming techniques and products during the late 19th century and into the early 20th century as a result of technology and shift in the agricultural industry. These ramifications effected Bristol farmers by keeping their land holdings small with approximately 100 to 200 acres.¹⁴ As the 20th century progressed, farms owned by these families slowly became divided and developed into “gentleman farms.”¹⁵ The owners of the farms saw agriculture as more of a hobby rather than a source of income and built luxurious houses on the land to accompany the farmland. Because a majority of these farms became gentleman farms, these barns and horse stables started being demolished as a result of no longer being functional. Today, this is the only land in Bristol that has maintained its original open space concept in which it was originally intended for. It remains free from modern day development and stays true to its historic characteristics and land usage.

¹⁴Rhode Island Historical Preservation Commission, *Historic and Architectural Resources of Bristol, Rhode Island* (State Historic Preservation Office, Rhode Island, 1990), 23.

¹⁵ Rhode Island Historical Preservation Commission, *Historic and Architectural Resources of Bristol, Rhode Island* (State Historic Preservation Office, Rhode Island, 1990), 23.

1.4.1. The Need to Save 20th Century Horse Stables

The barns and stables of a community serve as links to a town's past. They represent a simpler time in history and connections to people's families. Because farming is not in high demand within the Bristol area and operating agricultural land is dismantled, the preservation and well-fare of these historic barns and stables are threatened. According to the National Park Service's Preservation Briefs, specifically Brief 20, there is a need and many reasons why preserving and saving these historic barns and stables is important for a community, especially like Bristol.

Preservation Brief 20 encourages the preservation of both barns and other structures that are related to agricultural use.¹⁶ A community, such as Bristol, needs to preserve these historic structures because the architecture and the history of the structure serves as a connection and link to the families of who not only built the structure but also built the community. It tells a story of the people who lived there before us and represents a reflection of the developments in the community showcasing the uniqueness of the town. The physical components of the structure also share significance within the community as a representation of construction techniques, workmanship, and materials used to construct the structure, that together, attribute to the character of the structure. As discussed in Preservation Brief 20, the location of the historic structure can reflect the historic character of the area contributing to the need for preservation of these structures. Using the Colt stable as an example of this idea, its timber frame construction is typical of the New England region and can also be seen throughout other architectural structures of the town. The overall style and materials used on the stable reflects the time period the stable

¹⁶ "Preservation Brief 20: The Preservation of Historic Barns" last modified October 1989, <http://www.nps.gov/tps/how-to-preserve/briefs/20-barns.htm>.

was built. Another encouragement outlined by the National Park Service in Brief 20 for the need to preserve barns and stables is it saves the cost of constructing a new building.

Depending on the condition of the structure, often times preservation is a tool that can be used to save money instead of demolishing the entire structure and starting from scratch. It allows the character of the structure to be maintained and save money through the process. If applicable, the preservation of structures can generate money by instituting historic tax credits and other grants that can support financial needs for the rehabilitation. Because of the overall poor condition of the Colt stable, preservation of this structure will cost about equal to if not more than new construction.

The agriculture of America served as the backbone of this nation's economy and continued to serve an important role in the evolution of the United States. The barns and stables stand as a symbol to the development and historic characteristics that this country was founded upon. The need to preserve these barns and stables is essential in order to document the history of a community and collectively as a nation in order for future and potential residents of Bristol to understand their community history and progress.

1.5. Adaptive Reuse Potential of Structure and Land.

The Colt estate stable is a prime example of a potential adaptive reuse project not only because of its ideal location, but because of its architectural characteristics. Together, these qualities serve as key, desirable components that make this stable attractive to not only the Bristol community but from an outside perspective as well. Adaptive reuse is defined as the process of reusing an old site or building for a purpose other than which it was originally built or

designed for.¹⁷ Although the stable has remained empty for many years, a special event venue scenario and horse stable and training facility as adaptive reuse scenarios require a major rehabilitation undertaking in order for the structure to be considered a feasible space. Through research and analysis of the property, it is still unclear which adaptive reuse will be the most feasible option for the stable.



Figure 4.1: Aerial View of Adaptive Reuse Land

Bristol is an ideal location for an adaptive reuse on a structure because of its ocean front views and picturesque landscape, especially within the boundaries of Colt State Park, it attracts people of all ages and demographics. Because the stable and land surrounding the stable is owned by the state, in return, this structure could be economically beneficial for the town, local business owners, and the state preservation office. Both adaptive reuse scenarios each present themselves with opportunities as well as constraints when determining which choice is “most feasible” while at the same time, maintaining the structure’s historical integrity. Each adaptive reuse proposal has been analyzed using the same methodology, as well as, referencing the same factors that could

¹⁷ Jackie Craven, “*What is Adaptive Reuse*” last modified 2015. <http://architecture.about.com/od/preservation/g/reuse.htm>

potentially influence the state's decision. The method for determining feasibility revolved examining legal limitations of the land, political factors, local factors, intervention tools available, examining the condition of the existing structure, the amount of work needed to be completed for each individual adaptive reuse scenario, and calculating both rehabilitation costs as well as an income forecast. A further in-depth analysis of the methodology of this feasibility study is outlined in Chapter 3: Methods and Organization. These concepts, create a different vision of how a currently unused plot of land could potentially transform the area and ultimately serve the community in two completely different ways but, at the same time, outline which option would be the most economically feasible and beneficial.

1.6. Purpose, Benefit, and Limitations of the Study

The concept of preserving nineteenth-century barns and stables is associated with the ideas of transforming these historic structures to accommodate modern times while maintaining the historic characteristics of a community. It is essential to study and analyze the rehabilitation process of historic agricultural structures to help formulate the following research question:

How can twentieth century stables be adaptively reused to economically benefit the town of Bristol while maintaining the historic characteristics and architecture of the town?

The basic purpose of this study is to determine a feasible adaptive reuse scenario for the Colt estate stable that in return will be beneficial for the Bristol by analyzing two potential scenarios; a special event venue and horse stable and training facility. The analysis within the report attempts to focus on maintaining the historic structure's qualities and character defining features while transforming it to a modern use that in return could effectively be economically

feasible. The purpose of the study is primarily for an economic purpose, however, to understand how each scenario is economically beneficial, it is essential to consider the elements and components required for both scenarios.

The benefit of adaptively-reusing this structure is to maintain the historic aesthetic and significance associated with the structure and the community but generating a new use for the stable which in return can be beneficial. Because the structure is currently owned by the state, the report discusses the benefits for both the state and the town if the structure were to be adaptively reused on both an economic and tourism basis. By rehabilitating this structure back to a functional use, this process would correspond with achieving the goals outlined within Bristol's Comprehensive Plan in both scenario outcomes. The current state and condition of the structure, although not visibly accessible from the road, is an unpleasant sight for the residents of the Poppasquash District. Transforming it would benefit the overall beauty of the Poppasquash Historic District and allow guests and visitors to celebrate each element of beauty this area has to give to the community.

In order to answer this research question, this feasibility report will answer the question through a methodology of conducting a basic existing condition report, scope of work, and cost analyses for both rehabilitation and income forecasting for each adaptive-reuse scenario. The existing conditions report of the structure shapes the overall scope of work that is needed to rehabilitate the structure allowing a genuine cost estimate to be drafted. These steps must all be drafted and beforehand, otherwise, the income forecast cannot be calculated .

There are two limitations associated with this feasibility report; time and accessibility to resources. The research and work of this report is conducted during a specific time span which

does not permit specific aspects of the existing condition of the structure to be properly surveyed but just analyzed based on a visual evaluation. Certain building components such as the foundation, structural beams, and condition of the roof all need to be properly inspected by a structural engineer to diagnosis and appropriate course of action. As of right now, because of time restrictions, these recommendations are being determined based on the resources available for inspections. Although this report is a comprehensive feasibility analysis to determine which adaptive reuse would be most economically beneficial for the town not only in rehabilitation costs but combined with its income forecast, analyzing important components such as the historic tax credits, building codes, approval of the Rhode Island state preservation board and Bristol's Historic District Commission were not part of the overall analysis due to the limitation of time for this report.

1.7 Terminology

The definitions of this terminology section came from Donavon Rypkema's *Feasibility Assessment Manuel for Reusing Historic Buildings*.¹⁸

Amenities: The attributes of a parcel of real estate that add to its desirability. These may be physical attributes of the property itself or less tangible characteristics such as a good view, access to park, or convenient location

Capitalization: The process of converting annual net income into a lump sum capital value.

Cash Flow: Annual dollars remaining after debt services have been subtracted from net operating income.

Cost: The sum of the dollars required between the conception of an idea for a real estate development and its completion and full occupancy.

Debt coverage ratio: The relationship between net operating income and the annual debt service.

Debt Service: The annual amount of money needed to pay the interest and principal due on an amortized loan.

Deed Restriction: A provision in a deed limiting the use of the land being conveyed.

Deterioration: One of the causes of depreciation of real estate. Deterioration is physical and is brought about by wear and tear, neglect, use, and age.

Development Process: The series of steps required between the conception of an idea for a real estate development and its completion of full occupancy.

Effective Gross Income: Gross scheduled income less an allowance for vacancy plus any miscellaneous income.

Fixed Expenses: In appraising, those expenses that are not affected by the level of occupancy. Real property taxes and insurance are no the most common fixed expenses.

Gap: The difference between the cost of a project and its market value.

Gross Scheduled Income: The amount of money generated if a property were 100 percent occupied at full market rents.

¹⁸ Donovan Rypkema, *Feasibility Assessment Manuel for Reusing Historic Buildings* (Washington D.C., National Trust for Historic Preservation, 2007),97-101.

Limited Partnership: A form of business organization with two classes of partners.

Negative cash flow: The situation when there is insufficient money from the operation of a real estate investment, after the payment of the building expenses to meet the debt service payments.

Net Operating income: Income remaining after an allowance for vacancy , payment of fixed and variable expenses , and reserves for replacement.

Partnership: A business entity made up of two or more persons who have agreed to share in the risks and profits of the enterprise.

Property: Both the physical asset and the legal rights to use, possess, enjoy, and dispose of it. Property is classified as real property and personal property.

Value: The ability of a good to command money, services or other goods in exchange.

Variable expenses: Those operational costs of a building that go up or down depending on the level of occupancy.

Zoning ordinance: A exercise of the police power whereby local government regulates the use and character of land as well as the density, height, setback, and use of building.

CHAPTER 2: ASSUMPTIONS, LIMITATIONS, AND ADAPTIVE REUSE SCENARIOS

2.1. Assumptions and Limitations

Prior to determining which adaptive reuse scenario would be analyzed within this report, there were many assumptions and limitations on the existing structure that contributed to deciding which scenarios could be the most feasible option for the community. The initial concepts for an adaptive reuse scenario for the Colt estate stable came from an ongoing project through the Community Partnerships Center at Roger Williams University. The Colt estate horse stable was a case study for an advocacy document to be presented to the Rhode Island state government to explore the feasibility of a Resident Curatorship Program for Rhode Island. By using the Colt stable, it presents the idea of working with private organizations to co-sponsor the rehabilitation as well as the operating costs to preserve both the historic and aesthetic value of the stable. A brief section of the report is dedicated to adaptive reuse scenarios if this program was put into effect. The scenarios in this report include: Special Event venue, Horse Stable and training facility, art studio and gallery, educational center.

This section of the report provides basic information of each scenario defining what the use of the space would be, income factors, expense forecasting, and a competitive analysis of other similar venues in close proximity. There were no financial inquiries incorporated within this section which provides the assumption that all the options listed are feasible on an economic level; which is not the case. By making assumptions and analyzing the limitations of the projects, it allowed for the elimination of scenarios that are not feasible based on limitations. In the end however, factors discussed within the report provides financially supported assessments outlining each feature that would be incorporated within each adaptive reuse scenario.

As noted through Chapter 1 of this report, it is clear that this report will be focusing on a Special Event Venue and Horse Stable/Training Facility. Based on assumptions and limitations of the structure and the location, it allowed the other adaptive reuse scenarios to no longer become viable options for the Colt estate stable. The first scenario that was eliminated was an art studio/gallery. The location of the existing structure creates a limitation for this scenario. Although it could potentially be a viable option for a studio with the surrounding landscape as inspiration, the gallery would not be feasible. An art studio by itself could not generate enough cash flow to be considered a feasible investment. It is assumed that the location is too out of the way from foot traffic and the concentrated downtown area that the studio and art gallery would not be accessible enough for people.

The second scenario that was eliminated was an educational center. The demographics for an educational center implement limitations on this scenario. This scenario's demographic would strictly be children. This does not provide any leeway room in changing the business plan in order to generate cash flow. The time of season is another limitation with this style scenario. Educational centers typically focus on teaching children skills such as gardening, for example, and watching the process of how our food grows to educate children. This type of educational center would realistically only be able to be functional during May-October. With such a short time span window, it would give the owner a difficult time in establishing their financial objective while trying to generate income forecasting with children. When assessing this target market, it raises the question of is this type of venue needed in the area?

When assessing the property as a whole, the location of the stable can be seen as a positive attribute towards the economic development of the property but at the same time can be

a limitation. For certain adaptive reuse scenarios such as the special event venue and horse stable/training facility; it is nice to be in a location that has beautiful scenic views but is also in a remote location compared to the hustle and bustle of the downtown. Because the stable is adjacent to Colt State Park, the location transports you to an area that is different from the rest of the town making it unique. The assumption on this idea allows people to go outside the rituals of their daily life but not having to travel far. It provides privacy for individuals looking to use this space as a special event venue but it is not too far away from the commercial activity of the town.

On the other hand, its location is a limitation on which scenarios would be successful here. Because of its remote location, an owner would need to extensive advertising for their business in order to draw attention to the business. Depending on the extent of the advertising, this could possibly only target residents of Bristol or surrounding communities. It would be difficult to attract tourists to the location because it is completely out of the way from the business concentrated area of the town which is generally where visitors shop while visiting town. The location of the structure also determines the use of the structure based on zoning laws and regulations. The legal limitations of land use, provide limitations in which use of the space is permissible within the zoning. Although zoning appeals are always an option, it is not a guarantee that the variances will be approved.

The aesthetics and historic character-defining features of the structure could instill limitations on the adaptive reuse of the existing structure. One of the main goals behind an adaptive reuse project is to keep the historical characteristics of the structure while instilling a new use in the structure. The business would also need to maintain the historic integrity of both

the interior and exterior of the structure. The aesthetics of the structure could establish a limitation to which type of business could professionally work within the structure because the physical structure might not accommodate the business plan of the potential scenario. It is assumed that part of developing a successful adaptive reuse of the structure is maintaining the historic integrity and character defining features of the original structure. A complete transformation of the space to accommodate the intended scenario will defeat the purpose of rehabilitating the Colt estate stable.

Because of the location and historical significance of the existing stable structure, there are many assumptions and limitations associated with this structure that could potentially halt and terminate the adaptive reuse scenarios that are being proposed. The contents of this report incorporate these assumptions and limitations as part of the decision process to determine which adaptive reuse scenario would be feasible. Specifically within this chapter, limitations outlined by Rypkema in his *Feasibility Assessment Manual for Reusing Historic Buildings* are addressed, analyzed, and assessed according to the Colt stable and its location in Bristol, Rhode Island. Whether or not the adaptive reuse scenarios outlined within this report are used in the future for the Colt estate stable, these limitations can be applied to any scenario proposed for this space in assessing its feasibility.

2.1.1. Legal Limitations

The legal limitations and constraints on a project outline what is legally permitted towards a development plan on a historic structure and the land it is located on. According to Rypkema's *Feasibility Assessment Manual for Reusing Historic Buildings*, legal limitations generally arise from restrictions on the specific property itself and restrictions on land use generally that apply to the specific property.¹⁹ It is essential to analyze and assess the limitations in order to determine whether or not the Colt estate stable is feasible for each adaptive reuse. Although it is possible to change legal limitations, for the purpose of this report, it will be assumed that the legal limitations are final and changes that need to be made will be noted.

2.1.1.1. Property

When assessing the legal limitations on the property itself, the trace of ownership and chain of title must be looked at to determine if through the chain of title, a condition was implemented for the future use of the property's structure per the previous owner. When assessing these conditions through a chain of title a real estate attorney should assess these conditions to ensure no legal agreements were broken during



Figure 5.1: Property Location

¹⁹ Donovan Rypkema, *Feasibility Assessment Manual for Reusing Historic Buildings* (Washington D.C., National Trust for Historic Preservation, 2007), 23.

the process. Although it is important for a lawyer to read the fine print of a chain of title, it is important for both the owner and investor to have a basic understanding of the structure in order to move forward with the intended business or in this case adaptive reuse scenario. In the case of the Colt estate stable, the legal ramifications regarding its ownership falls under the state of Rhode Island. The stable was acquired by the state and has remained under its ownership since 1965. The stable acquired the stable as part of the Green Acres Program established in 1964 by Governor John Chafee as an acquisition of historic area for parklands with the assistance of the Open Space Program.²⁰

Under RIGL 37-6-1, the state of Rhode Island established and created a committee known as the State Properties Committee. The committee works with other agencies of the state with the "purpose of acquiring, administering, and disposing of interests in land and other real property for the improvement of the administration of the state government, the advancement of commerce, and the protection and improvement of the health, welfare, and safety for the inhabitants of this state"²¹ The land in which the stable was acquired on was purchased by the state and donated in 1968 as Colt State Park for the benefit of the Rhode Island people.

Because the property is a state-owned and falls under the jurisdiction of the Department of Environmental Management (DEM); changes to the property must follow regulations of Section k of GLRI 42-45-5. Section K outlines the responsibilities of the Historical Preservation Commission involving changes pertaining to state owned properties. The Commission is in

²⁰ Rhode Island: State-Owned Historic Properties, RI Historical Preservation commission, last modified 1989, http://www.preservation.ri.gov/pdfs_downloads/survey_pdfs/state_owned.pdf.

²¹ State of Rhode Island, Title 37: Public Property and Work Chapter 37-6 Acquisition of Land Section 37-6-1, Rhode Island General Assembly, 2014.

charge of providing guidance to State agencies and other departments on the proper treatment of properties and sites located within the inventory of state-owned historic properties.

In the case of the Colt estate stable, because the stable is not only a historic building but because it falls under ownership by the state of Rhode Island, the Historical Preservation Commission is in charge of making recommendations per the proposed recommendations for the structure. In order to “physically alter, change the location or method of storage, or change the manner of utilization or public accessibility, or to otherwise significantly affect an inventoried property”²² DEM would be required by law to notify the Historical Preservation Commission in writing. The Commission has sixty days to look over the proposed changes to the property and provide an advisory back in writing. The recommendations must be followed unless the commission includes within their recommendations “compelling reason.”

Along with the limitations of the property under the Historical Preservation Commission of Rhode Island, the property also falls under limitations under the Coastal Resource Management Council (CRMC). The CRMC is responsible for the preservation, protection, development and restoration of coastal areas of the state via the issuance of permits for work with the coastal zone of the state.²³ As per the federal government, features that fall under historical or archeological significance that are defined within the parameters of three miles offshore or two-hundred feet inland from any coastal feature fall under CRMC’s jurisdiction. In this case, the Colt stable does fall within these boundaries. The Coastal Resource Management Council has the power to create

²² Rhode Island: State-Owned Historic Properties, RI Historical Preservation Commission (Providence, 1989),9.

²³ Rhode Island Coastal Resources Management, State of Rhode Island last modified 5/06/2015, <http://www.crmc.ri.gov/aboutcrmc.html>

policies and plans to make management programs that interfere with these historical features. d The CRMC has the right to alter the development plan and create limitations for either adaptive reuse scenario that is put into place for the Colt stable based on its location.

2.1.1.2. Land Use

Land use restrictions on a property are public ordinances outlined by the Town of Bristol. These restrictions can affect which adaptive reuse scenario can occupy the existing land in which the stable is located on. Rypkema outlines land use restrictions based on the most common-restrictions using three categories: comprehensive plan, zoning ordinance, and subdivision ordinance. In the special case of Bristol, Rhode Island, because the town has its own Historic District Commission and because the Colt stable is located within a National Register Historic District, this also becomes a contributor, in addition to Rypkema's categories, as land-use limitations in determining the feasibility of the stable as either a special event venue or horse stable and training facility.

2.1.1.3. Comprehensive Plan

Based on the analysis of Bristol's Comprehensive Plan, both adaptive reuse scenarios would fulfill the vision, goals, and public strategy as how the land is to be developed. Bristol's comprehensive plan revolves around the community's commitment to environmental quality and historic preservation, whether the town has preserved and protected its historic character and sensitive natural land. Chapter III of Bristol's Comprehensive Plan addresses the vision and goals of Land Use in the town. Part of the strategy behind the Comprehensive Plan is to retain the Town's rural character to implement conservation development techniques for future

development.²⁴ One aspect that Bristol's Comprehensive Plan advocates for is their Downtown Redevelopment Plan. Adopted in 2005, the Downtown Redevelopment Plan requires a developer of properties in poor condition to return them to active use. A case study example of this that has already been completed and successful is the former Belvedere Hotel that was adaptively reused for commercial use on the ground level and condominiums on the for the upper levels. It should be noted that this plan does not apply to the Colt stable because of its location. Although the stable is not located within the historic district, as discussed later on in this chapter, or downtown the Revitalization Plan provides evidence within the Land Use chapter of the Comprehensive Plan that the town supports the reuse and rehabilitation of historic structures for new use. Goal 1 of Bristol's Land Use plan states the town will manage land in a manner that supports the comprehensive planning goals of the Town of Bristol. Policies the plan implements to achieve Goal 1 that relate and correspond to the Colt stable is

- B. Respect the historic resources that link Bristol's present with Bristol's past and use these resources as guidelines for managing future growth.
- C. Maintain the character of Bristol and make sure that new development does not adversely impact the integrity of the Town.²⁵

Chapter 5 of Bristol's Comprehensive Plan discusses the Economic Development and Agriculture goals and visions for the town by establishing actions undertaken by the community to create a positive environment to help businesses succeed and which enhance Bristol's standard

²⁴ State of Rhode Island, Comprehensive Plan Chapter 3 Land Use, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 3.

²⁵ State of Rhode Island, Comprehensive Plan Chapter 3 Land Use, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 6.

of living and quality of life. ²⁶ The plan outlines the positive aspects for businesses of Bristol which apply to both adaptive reuse scenarios such as the following:

Bristol has incredible resources and assets which are very attractive, Bristol's aspirations and values are our strength and key selling point for business growth, and finally it's all about local attitude and support. ²⁷

Together, these positive outlooks, described by the town will help contribute and improve the financial condition through more and better paying jobs. Both adaptive reuse scenarios open positions for both part time and full time employment opportunities for residents of the community. Studies completed by the town, concluded that new businesses developing within Bristol would create and support at least three to four local jobs. Scenario 1A and 1B (Special Event Venue) could potentially employee 3 full-time positions, an executive director, a social/business event coordinator, and a banquet server supervisor along with many part-time positions for banquet servers if needed for an event. These part-time positions would vary based on the need for servers per event. For an event occurring within this space, the need for banquet servers would be 1 server per 2 tables. Scenario 2A and 2B also would need full time and part time positions. Full time positions would include an executive director, trainers, and an office manager. Part time positions would include stable assistants and trainers whom would help operate the stables.

The Comprehensive Plan also points out that the town does not utilize the economic growth potential of wedding and event guests. Bristol estimates an annual 35,000 wedding guests and 300-400,000 event guest visitors to the town per year. It outlines the town needs to broaden

²⁶ State of Rhode Island, Comprehensive Plan Chapter 5 Economic Development, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 1.

²⁷ State of Rhode Island, Comprehensive Plan Chapter 5 Economic Development, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 3.

the opportunities of this market growth area, which a special event venue scenario would achieve. Goal 2 of the Economic Development and Agricultural outlines goal 2 as “Work for a mutually supportive relationship between activities and other aspects of town life.”²⁸ Policies the plan implements to achieve Goal 2 that relate and correspond to the Colt stable are

F. Encourage the reuse and rehabilitation of old industrial buildings and sites either by incentives to the private sector or action by the Redevelopment Authority using powers authorized by State Law.

I. Promote tourism that complements the Town’s environmental, scenic and historic resources as a means for economic development.²⁹

Based on the principles outlined in the town’s comprehensive plan, both a special event venue and a horse stable and training facility work within the parameters of the overall vision and goals for the town of Bristol. The visions and the goals of the town incorporate the rehabilitation and reuse of historic structures to generate new use which in return create economic opportunities, and preserve the natural and open landscape which would all be components of each scenario’s adaptive reuse.

2.1.1.4 Zoning Ordinance

A zoning ordinance is a limitation on what use will be permitted in a given area. The zoning ordinances for Bristol can be located in the Town of Bristol Zoning Ordinance Amendments revised March 4, 2010. According to Figure 5.2, the Colt estate stable is currently located in an Open space zoning district (OS Zone). In the Town of Bristol Zoning Ordinances, Sec. 28-3 Establishment of zoning districts defines the OS Zone district as “open space. This

²⁸ ²⁸ State of Rhode Island, Comprehensive Plan Chapter 5 Economic Development, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 8.

²⁹ ²⁹ State of Rhode Island, Comprehensive Plan Chapter 5 Economic Development, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 9.

zone is intended for the preservation of open space in the town.”³⁰ Article I. In General Sec.28-1 defines the term open space as, “*Open space means any parcel or area of land or water set aside, dedicated, designated, or reserved for public or private use or enjoyment or for the use and enjoyment of owners and occupants of land adjoining or neighboring such open space; provided that the area may be improved with only those buildings, structures, streets, and off-street parks and other improvements that are designated to be incidental to the natural openness of the land.*”³¹ The zoning

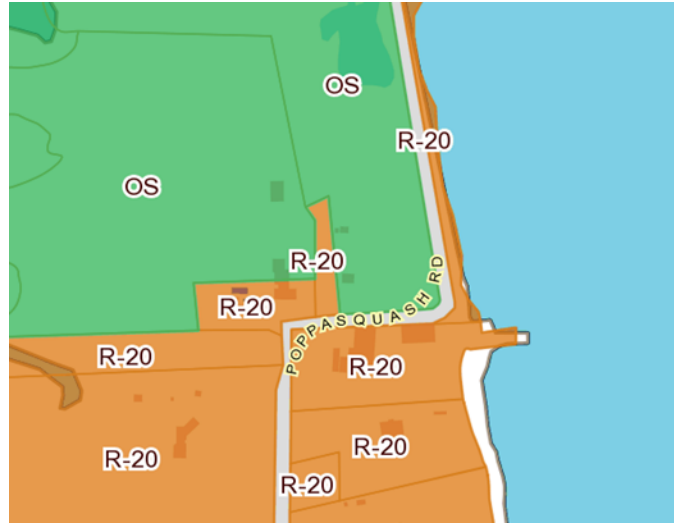


Figure 5.2: Bristol Zoning Ordinance Map

district (OS zone) the stable is located within will determine the permitted uses of space that are permitted within this zoning district.

In order to determine if the adaptive reuse scenarios are feasible based on land-use limitations, each scenario must reference Article III. Permitted Uses to determine whether or not the intended use is allowed within the OS zone. When referencing the permitted use table, in Sec. 28-81, permitted uses are denoted with a "Y" for Yes; uses not permitted are denoted with an "N" for No; and uses permitted only upon approval of the zoning board are denoted with an "S" for a

³⁰ State of Rhode Island, Town of Bristol Zoning Ordinances Amendments, Order of the Town Council, Bristol, State of Rhode Island, 1998, 23.

³¹ State of Rhode Island, Town of Bristol Zoning Ordinances Amendments, Order of the Town Council, Bristol, State of Rhode Island, 1998, 15.

special use permit. Uses permitted by special use permit for which there are specific standards are further denoted with an asterisk (*). ³²

Adaptive reuse scenario 1A and 1B focus around the concept of a special event venue. A special event venue does not have its own specific zoning district it categorizes under. The open space district that Colt State Park falls under is permitted to have weddings and special events within the space, however there is no specific category for the structure itself. To be a feasible adaptive reuse under the zoning ordinance jurisdiction, this scenario would need a permitted use variance for approval.

Adaptive reuse scenario 2A and 2B focus around the concept of a horse stable and training facility. A horse stable and training facility is categorized under the zoning district recreational and would specifically fall under riding stable. According to the Permitted use table, (Figure_) a horse stable is a permitted use of space in zoning district OS. This indicated that based on land-use limitations that this adaptive reuse scenario is feasible in accordance to Bristol's Zoning Ordinances.

Table 1. 2: Scenario 2A/2B Zoning District

<u>ZONING DISTRICTS</u>	<u>R-80</u>	<u>R-40</u> -	<u>R-20</u>	<u>R-15</u>	<u>R-10</u> <u>R-10</u> <u>SW R-8</u>	<u>R-6</u> -	<u>LB</u>	<u>GB</u>	<u>D</u>	<u>W†</u>	<u>M</u>	<u>OS</u> -	<u>EI</u> -	<u>HPC</u>	<u>MMU</u>
Riding stable	S	S	S	S	N	N	N	N	N	N	N	Y	S	Y	<u>N</u>
Golf course	Y	Y	Y	Y	N	N	N	N	N	N	S	Y	N	Y	<u>N</u>
Golf driving range	N	N	N	N	N	N	N	S	N	N	S	N	N	N	<u>N</u>

³²State of Rhode Island, Town of Bristol Zoning Ordinances Amendments, Order of the Town Council, Bristol, State of Rhode Island, 1998, 30.

In compliance to Section 28-6, Conformance with permitted uses, *“No building or structure shall be erected, reconstructed, enlarged or moved for any use other than that which is permitted in the zone in which such building, structure or land is located. Nor shall any building, structure or land be used for any use other than is permitted in the zone in which it is located.”*³³

When assessing each adaptive reuse scenario in reference to Section 28-6, this conformance with permitted uses would only apply if the development plans of the structure went forward with a special event venue. In that case, because it is not permitted within the OS zoning district, it would need to apply for a zoning waiver that would petition the use of space allowing it within the zone. However, according to the Zoning Ordinance Amendment there is another feasible way that a special event venue is permitted within the Colt estate stable even though it is not permitted according to zoning districts.

As part of the Town of Bristol’s Zoning Ordinance Amendments, Section 28-284 Land Development Projects: Urban Rehab Land Development Project outlines the concept of the rehabilitation of historic structures within permitted zoning districts. The purpose of this section is defined as

The rehabilitation of deteriorated under-utilized and inefficient historic and/or nonconforming structures of conservation concern is of primary importance to the health, safety and welfare of town residents. It is vitally important for the economic well-being of town that these resources be rehabilitated for long term use.

Under Permitted Uses, Section 28-284 states that the following uses shall be permitted in a rehab land development project, subject to the planning board’s determination that such uses as proposed form a harmonious mixture for the subject site. Listed as part of the permitted uses in

³³State of Rhode Island, Town of Bristol Zoning Ordinances Amendments, Order of the Town Council, Bristol, State of Rhode Island, 1998, 25.

the Urban Rehab Land Development project is Service business. Qualified under this category is a restaurant, cafe, or deli without liquor sales, restaurant, cafe, or deli with liquor sales, tavern/bar/nightclub, catering, sign painting, laundry, self-service, dry cleaning without on-site plant, appliance repair, mechanical equipment repair, printing, blueprinting and photocopying, photographic development, hairdresser/barber. The decision whether or not a special event venue would qualify as a permitted use of space within this zone would need final approval by the Planning Board.

As a supportive claim to this Developmental Plan, in order to argue that a special event venue as an adaptive reuse scenario for the Colt stable, the argument could focus on the Objectives of the Urban Rehab Land Development Project. Objectives that would support the claim for permitted use within this zone are supported by protecting aspects of the built and natural environment and character which impart a sense of place to the community while allowing beneficial new uses and rejuvenation. The Colt stable is a prime example of a space that balances the built environment and natural environment. The stable has been a component to the community as well as the land in which it lies by acting as a story teller for how the land and structure was historically used for. The rehabilitation as a Special Event Venue would keep the character of the structure but be beneficial for the community by encompassing a new use rather than keeping it abandoned and open to further destruction and damage. An additional objective that would support the claim for this permitted use is safeguarding the physical fabric of the community from neglect and decay while preventing incongruous development and redevelopment. Since the structure has been unused since it was purchased by the state of Rhode Island in 1965, over the years there has been damage to the historic fabric and overall structure

of the stable. The adaptive reuse of the existing stable would stop the continuation of damage to the structure and preserve as much of the physical fabric as possible to benefit the historic characteristics of the community.

Based on the implications outlined by the zoning districts and permitted uses, in order to determine which adaptive reuse scenario would be feasible for the Colt stable based on zoning ordinances as part of land-use limitations, the special event venue is not a feasible scenario for the existing structure according to limitations of permitted use within an Open Space Zoning District. However, because Bristol has a strong preservation stance within the community, the Urban Rehab Land Development Project, opens the possibility of a Special Event Venue as a permitted use of space because the adaptive reuse process would entail rehabilitating a historic structure. In order for this scenario to be considered feasible, it would need approval from the Planning Board. This still indicates the possibility of feasibility but based on initial permitted uses, it is not a permitted adaptive reuse scenario.

2.1.1.5. Subdivision Ordinance

The goal of the Subdivision Ordinance in agreement with the Rhode Island General Law Section 45-23-30, is to determine procedures and provisions for subdivision and development of land in Bristol that will remain consistent with the goals and vision outlined within the town's Comprehensive Plan as well as a reflection of the town's zoning ordinances.³⁴ When assessing the scenarios in the context of the zoning ordinances, it was concluded that a Special Event Venue had the potential to be feasible strictly on the concept of the adaptive reuse but is considered not a feasible scenario based on the permitted use relationship to the zoning district.

³⁴ State of Rhode Island, Town of Bristol Rhode Island Subdivision and Development Review Regulations, Planning Board, Bristol, State of Rhode Island, 2009, 1.

As part of the Subdivision Division, Development Plan Review is required to approve certain uses before development plans commence. The Planning Board DRP would review the special event venue to issue a variance or special use permit in the zone which would result in a waiver allowing a Special Event Venue to start the development process. To receive this approval, a special event venue would need to fulfill the following requirements outlined by the Planning Board to be granted the approval; character, need, and documentation. This approval process regarding land-use limitations can also be associated with costly fees as part of the approval process which include application fees, engineering fees, review fees of subdivision and land developments.

As part of Bristol's Zoning Ordinance Amendment, Appendix F: Design and Construction Standards serves as a guide to subdivision and site design to ensure this design is compliant with the Comprehensive Plan, as well as, ensuring a functional and attractive development that will minimize the impacts of the project to serve as an asset to Bristol. In order to be a feasible option for the Colt stable, each adaptive reuse scenario must follow and incorporate the Design and Construction Standards. These standards must be based on the characteristics of the site prior to development. It states the development must be organized to minimize disturbance to the site and create the least amount of impact to the natural features, historic and cultural resources, and overall character of the town. Each Design and Construction Standard that is applicable and necessary for the Colt estate stable to move forward has been outlined accompanied with its requirement that must be incorporated as part of each adaptive reuse's overall design and development. The descriptions of each component required for both adaptive reuse scenarios in

this chapter is taken from the Sub-division

Ordinance Regulations outlining the provisions each potential scenario will have to follow.

Road System: The arrangement of streets shall be considered in relation to the existing street system and to existing topographic and natural conditions. The road system shall be designed to permit the safe, efficient and orderly movement of

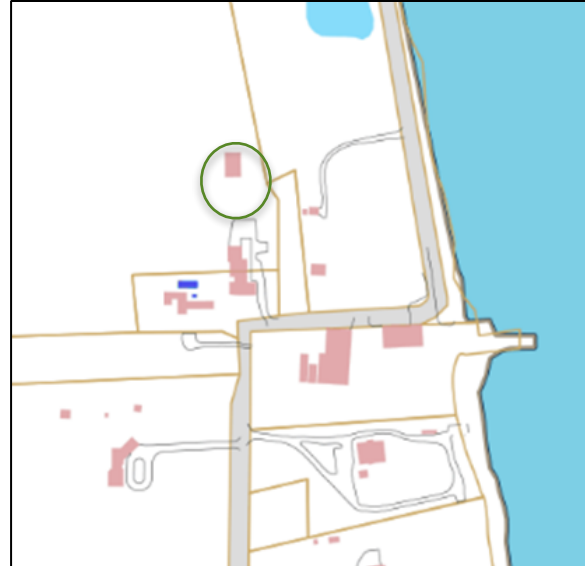


Figure 7. 2: Existing Road System and Access Points

traffic; to meet, but not exceed, the needs of

the present and future population served; to have a simple and logical circulation pattern; to respect natural features and topography; to improve the visual quality of the subdivision; to increase privacy and reduce unnecessary noise and traffic. ³⁵ Based on Figure () it is evident that there is no road system connecting Poppasquash Road to the Colt stable. An accessible roadway or driveway would need to be developed to connect the existing roadway to the property.

Curbs: Concrete or granite curbs are required in streets within industrial subdivisions and may be required by the Planning Board in other subdivisions where deemed necessary to control surface and drainage or where to connect with existing curbing. ³⁶

Drainage: The drainage system may be comprised of natural and man-made elements, including grassed swales, curbs, catch basins, culverts, and storm water pipes. The applicant is encouraged

³⁵ State of Rhode Island, Town of Bristol Rhode Island Subdivision and Development Review Regulations, Planning Board, Bristol, State of Rhode Island, 2009, 100.

³⁶ State of Rhode Island, Town of Bristol Rhode Island Subdivision and Development Review Regulations, Planning Board, Bristol, State of Rhode Island, 2009, 111.

to minimize the use of retention and detention basins and incorporate natural low impact design elements into the drainage design whenever possible using the Best Management Practices (BMP's) and standards of the State of Rhode Island Storm water Design and Installation Standards Manual, as amended. BMP's such as grassed swales and vegetated filter strips not only collect and transport storm water, but also mitigate pollution; reduce sedimentation; provide visual aesthetics, recreational opportunities, and potential wildlife habitat. Drainage structures shall be in conformance with the accepted State RIDOT standards, or approved equals. The storm water management plan should emphasize infiltration and the low impact design, and how the selected management techniques will be operated.³⁷

Utilities: Sanitary Sewers: Sanitary sewers shall be required in all subdivisions and land development projects where such sewer service is required in accordance with the procedures and standards set forth by Bristol Sewer Authority as approved by the Planning Board. Sanitary sewers shall generally be located in the center of the street. Also reference Chapter 18 of the Town of Bristol General Ordinances.³⁸

(2)*Water Service.* Water service shall be provided for each lot in accordance with the requirements of the Bristol County Water Authority. Waterlines shall generally be located on the north or east side of the street. Flow test information may be required by the Planning Board or

³⁷ State of Rhode Island, Town of Bristol Rhode Island Subdivision and Development Review Regulations, Planning Board, Bristol, State of Rhode Island, 2009, 112.

³⁸ State of Rhode Island, Town of Bristol Rhode Island Subdivision and Development Review Regulations, Planning Board, Bristol, State of Rhode Island, 2009, 116.

Planning Board's Engineer in areas with known or suspected water pressure or water volume concerns.³⁹

(3) *Gas Service*. Gas service shall be provided in all subdivisions and land development projects where such service is available in accordance with the standards set forth by the Bristol and Warren Gas Company. Gas lines shall generally be located on the south or west side (opposite side from water service) of the street.⁴⁰

(4) *Communication Lines (Electric, Telephone, and Cable TV)*. All new electric, communication (telephone, fire alarm, and cable TV) and street lighting lines shall be installed underground. Communication lines are not required to be placed underground for: minor subdivisions where no street creation is required, where utilities already exist aboveground; providing, however, that any new lines follow the existing aboveground utilities; or, where the Planning Board finds that aboveground utilities are consistent with the character of the existing neighborhood.⁴¹

2.1.1.6. Local Historic District and National Register District

In historic towns such as Bristol, it is not uncommon for towns to have their own established local historic districts to ensure that the historic character of the town is maintained. Bristol has their own historic district as well the as Historic District Commission established in 1987. The houses within this district are restricted by the Historic District Commission regulating alterations to the exterior, site, and additions. Historic districts on the local level have

³⁹ State of Rhode Island, Town of Bristol Rhode Island Subdivision and Development Review Regulations, Planning Board, Bristol, State of Rhode Island, 2009, 100.

⁴⁰ State of Rhode Island, Town of Bristol Rhode Island Subdivision and Development Review Regulations, Planning Board, Bristol, State of Rhode Island, 2009, 116.

⁴¹ State of Rhode Island, Town of Bristol Rhode Island Subdivision and Development Review Regulations, Planning Board, Bristol, State of Rhode Island, 2009, 116.

strict legal restrictions because the district regulate land use ordinances. Although Bristol does have a historic district, the Colt stable is not located within the boundaries of the historic district which means that neither of the adaptive reuse scenarios have to be approved by the historic district commission and fall under their jurisdiction.

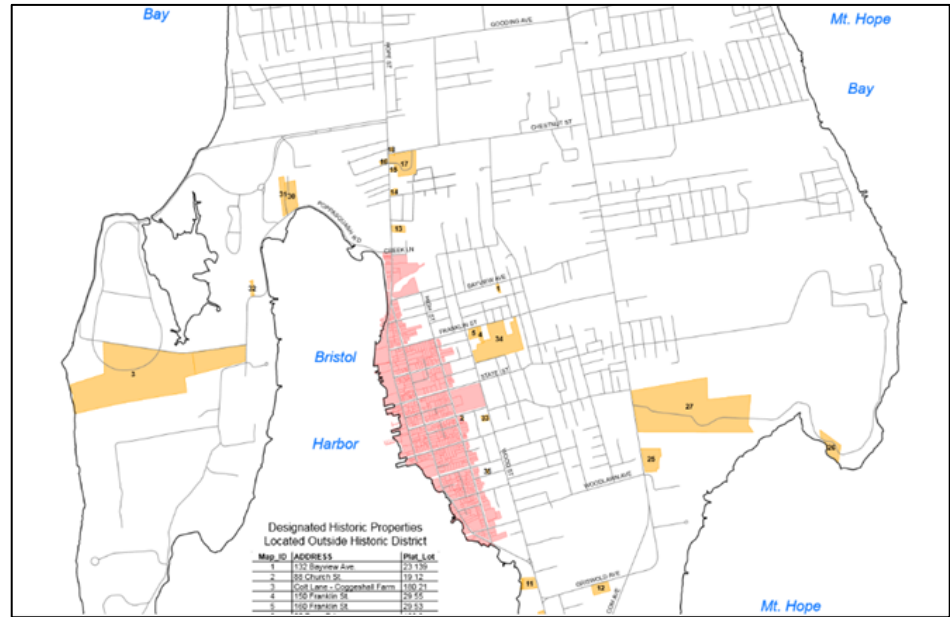


Figure 8.2: Bristol Historic District (District in Red)

Along with the local historic district, the town also has a National Register District known as the Poppasquash Farm Historic District representing a reflection of the social and architectural heritage of a three-hundred year time span in Bristol. Even though the stable is not part of the local historic district, the Colt stable is located within the

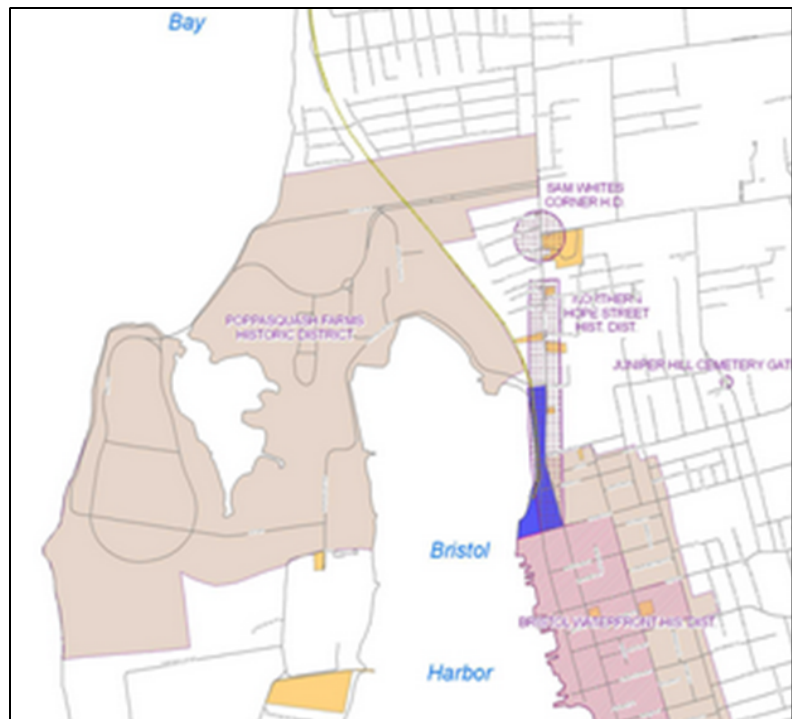


Figure 9.2: Current Poppasquash Historic District

Poppasquash Farm Historic District. Unlike individual properties on the National Register of Historic Places as well as local historic districts, properties located within the Poppasquash Historic District impose no limitations on what property owners can do to the structure or establishing any land use limitations.

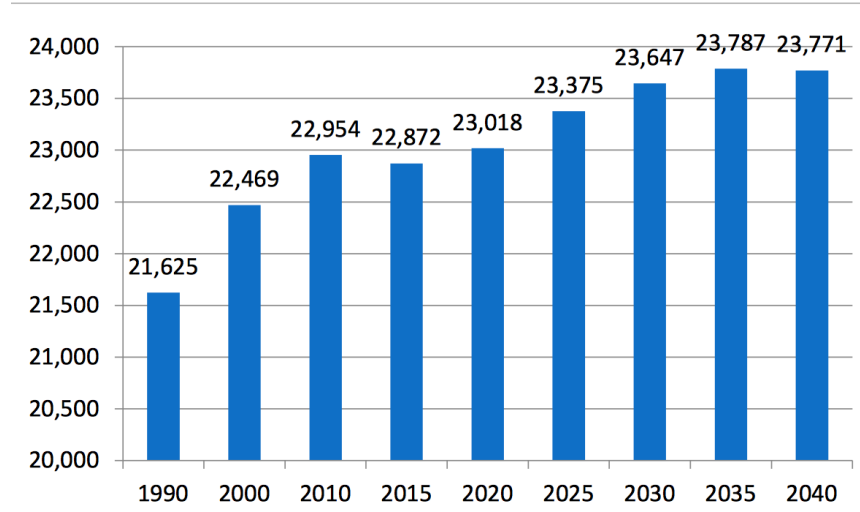
2.1.2 Regional and Local Factors

One of the most important slogans in the real estate market is, “location, location, location.” The same is to be true of the rehabilitation and adaptive reuse of a historic structure. The location of a structure can control whether or not an adaptive reuse scenario has supporting factors that will determine feasibility of a structure. Factors on a local and regional level become external factors that impact whether or not those factors are relevant to development plan of a structure. The local and regional factors can create a major impact on the status of a development plan of a structure by revolving around the population data, economic data, demographic data, employment data, and overall local attitudes regarding adaptive reuse of structures. Assessing and analyzing these factors will not only help determine which use is better fitted for the Colt stable as well as who the target market will be aimed towards in order to generate cash flow and revenue. By adaptively reusing the existing Colt stable to generate a new use, this can not only benefit the local economy as well as generate the local employment for the town.

Population: Although this rate is constantly changing, Bristol’s population is approximately 22,260 residents. Bristol has a rate of 48% of long-term residents which is determined based on 5 years of residence in the community. According to the US census as well as the RI Statewide Planning Program, based on the population growth rate trends seen in Bristol over recent years, it

is believed the growth rate will decrease within the next five years. It is estimated and projected that by 2040 Bristol will

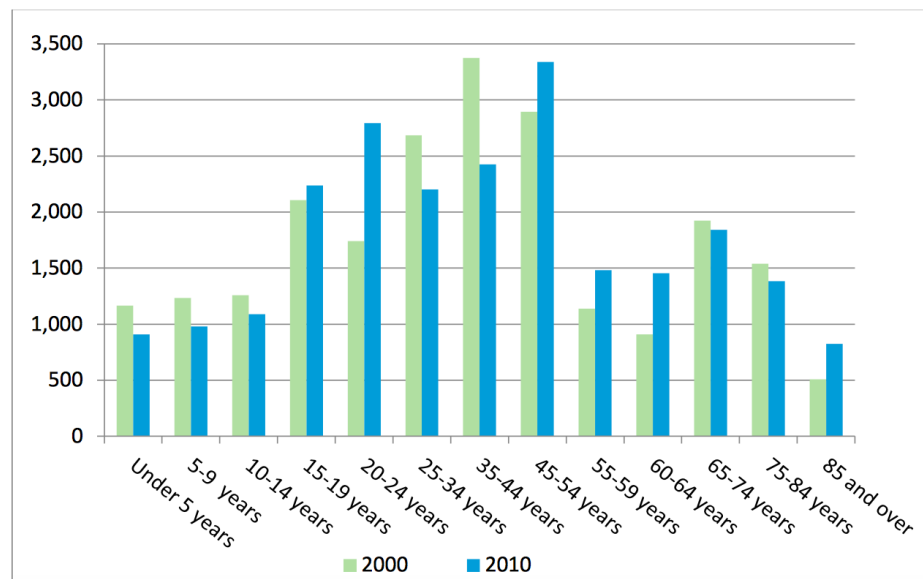
have a population of 23,771. This projected number indicates the town of Bristol will have a 3.6% growth rate based on the current growth rates in the last decade.⁴²



Source: US Census, Rhode Island Statewide Planning Program Population Projection

Figure 10.2: Population Growth of Bristol

Along with assessing the total population of Bristol, it is also necessary to access the age distribution within that total population number for Bristol. By assessing the age distribution of the community, it will



Source: US Census 2000 and 2010

Figure 11.2: Age Distribution of Bristol

contribute in determining which adaptive reuse scenario is considered feasible based on whether

⁴² State of Rhode Island, Comprehensive Plan Chapter 2 Snapshot of Bristol, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 2.

or not it can satisfy its target market. As seen through evidence of Figure 11, from 2000-2010, the age distribution of Bristol has changed. The town has been exposed to a 18.6% decrease in children ages 14 and under but in contrast to this number an increase in the teenage and young adult population with 60.4% from 2000-2010. The other area of population increase was seen evident in residents age 55+. Residents ages 55 to approximately 64 has increased Bristol's population by 43.4% as well as an increase with residents of age 85+. ⁴³ The median age for residents of Bristol is approximately 44 years old. ⁴⁴

The decrease in young children in the community could pose a limitation regarding the target market for a horse stable and training facility. Although this scenario is open to all age groups, the initial target market for this scenario is geared towards the younger age demographic. However, children in surrounding communities can also benefit from this scenario as well, not just specifically Bristol residents.

Demographics: For this report, the demographics of Bristol were established by race and gender. Out of the total population of the town of Bristol, 97% of that population is white. Residents who are African American, Asian or Pacific Islander, and mixed races each individually make up 1% of the total population.⁴⁵ Other races such as Indian and "other" do not have enough residents to make up 1% of the town's demographic population. The gender demographic population of

⁴³ State of Rhode Island, Comprehensive Plan Chapter 2 Snapshot of Bristol, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 3.

⁴⁴ "Bristol RI Lifestyle & Demographics" Living in Bristol, Last modified 2014, http://www.realtor.com/local/Bristol_RI/lifestyle

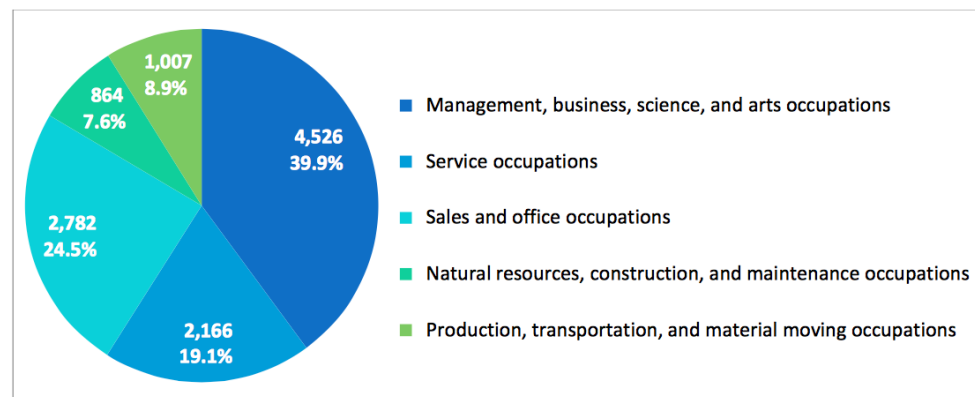
⁴⁵ "Bristol, RI 02809" Movoto Real Estate, last modified 2015, <http://www.movoto.com/bristol-ri/02809/demographics/>

Bristol is almost equally represented. Approximately 52% of the population is female with 48% of the town's population as male. ⁴⁶

Employment:

The overall employment of Bristol varies based on the industries of the community. According to the American Community Survey conducted in 2012, the largest industries that provide employment for the residents of Bristol is educational services/health care/ social assistance, retail trade, arts/entertainment/recreation, food services, and manufacturing. ⁴⁷ As of March 2015, the current unemployment rate of Bristol is estimated at 6.5%. Due to recent economic

repressions throughout the country, this number has fluctuated from 3.5% to 12.8% since 2005. ⁴⁸



Source: American Community Survey 2008-2012 5-Year Estimates

Figure 12.2: Employment in Bristol

Although this number has decreased in recent years, this number indicates there are still employment opportunities needed within the context of the community. When reviewing the employment history of Bristol, historically the majority of the town was employed by either

⁴⁶ "Bristol, RI 02809" Movoto Real Estate, last modified 2015, <http://www.movoto.com/bristol-ri/02809/demographics/>

⁴⁷ State of Rhode Island, Comprehensive Plan Chapter 2 Snapshot of Bristol, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 13.

⁴⁸ <http://www.homefacts.com/unemployment/Rhode-Island/Bristol-County/Bristol.html>

maritime professions or the rubber factory operated by Samuel Colt. Looking back on the past decade of employment of Bristol, manufacturing within the community has grown the most where in contrast jobs in construction and wholesale have decreased. The same survey concluded that 63.1% of Bristol's population are employed in a labor force profession.⁴⁹ Both adaptive reuse scenarios provide employment opportunities in both labor force style jobs as well as jobs based off of an educational background. Because both scenarios revolve around service industries, if the adaptive reuse is established as a success, the need for employees could rise providing more opportunities for the community.

Local Attitude: The community of Bristol has a positive attitude and pride within their community as a community that supports preservation. Along with having their own Historic District Commission which is made of Bristol residents, they also have preservation organizations that help to promote and encourage preservation even further within the community. Organizations such as Preserve Bristol is a pro-active community based organization that focuses on the development of Bristol with the goal of preserving the unique social, economic, and overall character of the community for its residents. Because Bristol has a strong desire for preservation within the community, these visions and goals have been adapted as part of the town's Comprehensive Plan in order to ensure community remains "pro" preservation for future generation to be able to appreciate and value the uniqueness of the community.

Although it is still unclear what the future of the Colt estate stable entails, it is evident based on the community's overall goals and vision for the town of Bristol, the support for the rehabilitation of this structure would be available. The elements and components that are

⁴⁹ State of Rhode Island, Comprehensive Plan Chapter 2 Snapshot of Bristol, Bristol Planning Board and Town Council, Providence, State of Rhode Island, 2009, 13.

associated with each adaptive reuse and how that will affect the town will become a concern of local residents in the Poppasquash area as well as the rest of the community, not as much the rehabilitation process. The adaptive reuse will ultimately benefit the overall local economy as well as provide employment opportunities for its residents but at the same time, the rehabilitation of the Colt stable will maintain the historic and architectural significance associated with the town's overall history and development.

2.1.3 Political Factors

The political factors for the adaptive reuse of the Colt estate stable should be looked at on a Local, State, and Federal level. It is important to establish both the positive and the negative impacts that can derive from political factors when determining the feasibility of an historic structure. External factors that can have a correlating impact on the political factors for the Colt estate stable's adaptive reuse is the consequences on the environment, effect on the community's overall vision and goals, and influence this project could potentially have on other projects. Being conscious of Bristol's political landscape will be an important step in establishing feasibility in order to move forward in the process of selecting a potential adaptive reuse scenario.

The political factors of this project will influence the likelihood of whether or not the project is rehabilitated to generate a new use. In this example of an adaptive reuse, the Colt stable's political factors focus around local and state government but does not exclude factors of the Federal government completely.

Due to the fact that the existing footprint of the stable is within close proximity to the coast, as previously mentioned, will become a concern to the Coastal Resource Management Council on the consequences the adaptive reuse will play on the environment. Each adaptive reuse scenario needs to be analyzed to determine whether or not the components of its scenario will impact the surrounding environment. As previously mentioned within Chapter 2, the construction of a roadway or driveway will be essential to the existing structure. A parking lot will also need to be constructed to accommodate vehicles of each scenario. When assessing each individual scenario, this will determine the size of the parking lot needed for each space. If the stable become a special event venue, this means a larger parking lot will need to be created to accommodate more guest. Depending on which scenario is chosen, the space could potentially accommodate between 90 to 130 people. The parking lot created would destroy a large portion of the natural landscape that is currently adjacent to the property. The horse stable scenario will also need a parking lot, however, the size needed for this type of space would be evidently smaller. The horse stable's intent would be to keep as much of the natural landscape as possible in order to accommodate the horses.

2.1.3.1 Local Government

The political factors on the local level of government should focus around the town of Bristol and its elected officials. Within the town of Bristol in order to determine feasibility, the elected officials, members of boards and commissions, and city staff. As demonstrated through 2.1.2. Legal Limitations, it is evident that as part of the town's Comprehensive Plan, preserving historic resources and protecting the natural environment both play a part in the town's overall vision and goals as a community. The Historic District Commission can also be implemented as

a political factor by showcasing the town's support for preservation of the town's historic features and resources. Although the Commission typically focuses on structures located within the Historic District, the Commission can use their approach and guidelines that they use when reviewing structures within the district and stand as supporters. Because of the location of the stable, it is outside their jurisdiction, but they board can serve as an advocate to the town as why the rehabilitation of this structure would be beneficial for the community as a quest to maintain the unique physical character, historic fabric, and visual identity for Bristol.

Because the property is owned by the state, it provides a limitation on what can be done to the structure on a local political scale. However, local support can serve as a political tool in assistance to the political factors on the state level. There are a few Bristol residents whom have political authority on the State level, such as Representative Kenneth A. Marshall who is a member of the House of Finance Committee. Having a political figure whom encourages economic development that could be beneficial for his own community can serve as a political factor on the local level since decisions regarding the stable cannot directly be made on the local level in order to gain support. Mr. Marshall is just one of the few political figures whom lives in the town of Bristol. With multiple avenues of political support on a state level, it can serve as a bridge to link the local political advocacy for the property into the decision makers on the state level.

2.1.3.2 State Government

As previously mentioned, this property is owned by the state and listed within their inventory as a Rhode Island Owned property falling under the jurisdiction of the Department of

Environmental Management. The state stands as a large political factor regarding the adaptive reuse of this property. As owner of the structure, they will determine which scenario they wish to rehabilitate the existing structure to. Along with the Department of Environmental Management the Rhode Island State Preservation Office will play a large political factor in the stable's future determining which physical changes will be acceptable or not to the existing structure. This could be both a negative and positive factor when determining feasibility. Both adaptive reuse scenario has two scenarios; one involving an addition. As outlined in Chapter 6, the addition changes the income and cash flow revenue of each scenario. Without the changes to the structure, it could interfere in choosing a feasible solution. Their main goal in this process is to make sure that the historical character and authenticity remains as close to the original as possible making sure there is no negative impact to the structure. The State level of government is also seen as a political factor based on the Green Acre Program discussed in 2.1.2. Legal Limitations which still must be in effect when undergoing a rehabilitation per its agreement in 1965.

2.1.3.3 Federal Government

When analyzing the Federal political factors of the Colt stable, the focus goes to the Department of Environmental Management which is operated on from federal money. Although the money supply is limited, it does play some role regarding political factors that attribute to the structure because the stables falls under the department's jurisdiction. As long as the DEM and the state continue to own the property, this will remain a political factor regarding the developmental plan and choosing an adaptive reuse scenario.

2.1.4 Intervention Tools Available

One of the major problems that arises with the adaptive reuses and rehabilitation of historic structures is the lack of finances to support the development plan of the project when looking at an immediate financial return in a specific allotment of time. When this occurs, which is typically the case, it becomes essential to look for intervention tools to induce private investment. The core need for these financial incentives that can be provided through intervention tools derive from the gap between the project's cost and its value. The cost of the project is the sum of the dollars that will be necessary to complete a project from conception to occupancy.⁵⁰ The value is what a property is worth in the marketplace to someone else to buy or to rent.⁵¹ When determining which intervention tools would be most beneficial to a project two questions need to be answered to determine which intervention tools are most beneficial. Who is the owner and who benefits from the use of the structure?

2.1.4.1 Foundations and Non-Profit Organizations

When answering those questions in terms of the Colt estate stable, as previously stated, the owner is the state of Rhode Island, under the jurisdiction of Department of Environmental Management and who benefits from the use is what will determine the appropriate intervention tools. Each adaptive reuse scenario will have their own individual intervention tools accessible to each scenario. Because the stable is a historic structure, whichever adaptive reuse is chosen for the structure the historic character of the structure will be preserved. With this, there is a few

⁵⁰ Donovan Rypkema, Feasibility Assessment Manuel for Reusing Historic Buildings (Washington D.C., National Trust for Historic Preservation, 2007),67.

⁵¹ Donovan Rypkema, Feasibility Assessment Manuel for Reusing Historic Buildings (Washington D.C., National Trust for Historic Preservation, 2007),67.

foundations and non-profit organizations that could serve as potential intervention tools based on the concept of preservation; the Champlin Foundation, 1772 Foundation, and State Preservation Fund.

Champlin Foundation: The Champlin Foundation is defined in Section 509(a) of the Internal Revenue Code and labeled as private foundations. The goal of the foundation is to fund tax exempt organizations within Rhode Island that will have the greatest impact on the broadest possible segment of the population.⁵² They make direct grants to tax exempt organizations all within the boundaries of Rhode Island primarily for their capital needs ranging from construction, renovation, real estate purchases, and equipment needed. The foundation began in 1932 and focuses their money within their foundation in the state of Rhode Island. Since 1932, the foundation has distributed \$497 million dollars within the state. The foundation has focused their distribution of money within their own “Areas of Focus” which help formulate a decision on which avenue the money goes: youth/Fitness, hospitals/healthcare, open space/conservation/environment, libraries, Social Services, historic preservation, cultural/artistic, animal humane societies. The Colt estate stable would qualify under two areas of focus within the Champlin Foundation’s criteria, historic preservation and open space/conservation/environment. The Foundation does state as part of their policy that they do not participate in feasibility studies. In order to use this Foundation as a intervention tool, an adaptive reuse scenario would need to be established and outlined in order to move forward in the process.

⁵² “The Champlin Foundations” Champlin Foundation, Last modified March 30, 2015 <http://www.champlinfoundations.org/champlinhistory.html>

The 1772 Foundation: The 1772 Foundation provides grants in order to protect farmlands and historic buildings to the future generations of the Northeast region of the United States. They believe by preserving these farmlands as well as historic buildings that we are preserving the past and the future. The key area of focus for the 1772 Foundation revolves around the Historic Property Redevelopment Programs. They consider themselves a contribution to the preservation field in the sense that not only they can help with design but other financial decisions as well. The Colt stable would be a perfect candidate for the 1772 Foundation. In 2013, the Foundation awarded \$2,854,490 in grants within the Northeast region and as stated as part of their annual report from 2013, wish to expand as a preservation tool⁵³ Not only is the Colt stable an historic structure but it is also located within historic farmland, which still remains in its original appearance as it did when Samuel Colt purchased the stable in 1904. The Colt estate stable qualifies within both major visions the Foundation strives for which would allow the Foundation to serve as advocates for both causes.

Rhode Island State Preservation Fund: The residents of Rhode Island decided to fund historic preservation grant programs which is operated through the Rhode Island Historical Preservation Heritage Commission to assist in funding capital for renovation projects that focus around historic buildings throughout Rhode Island. The goal behind the state preservation fund is to bring awareness to significant properties that are controlled by both public agencies as well as non-profit organizations that need repairs or restoration. The state of Rhode Island believe that the preservation of these structures are not only important for the future generations of the state

⁵³"Annual Report 2013" The 1772 Foundation: Preserving American Historical Treasures, Last modified 2013, http://www.1772foundation.org/wp-content/uploads/2014/2013_Annual_Report.pdf

but also have an economic advantage. The preservation of these structures within the state provides employment and job opportunities in order to generate tourism by preserving the history of Rhode Island. From 2003 to 2007, the RI state preservation fund provided \$6 million to 86 different sites around the state. The Commission has a goal to relaunch this grant program at some point during 2015.⁵⁴ The Colt estate stable could be a perfect rehabilitation project for the Grant Program to award a grant for to relaunch this program within the state based on the overall benefits the structure could have to not only the town of Bristol but to help generate the state economy and tourism market.

Also associated with the Rhode Island Historical Preservation and Heritage Commission that could be used as an intervention tool is the Certified Local Government Grant Program which would operate under the town of Bristol's historic preservation undertakings. Bristol is one of the eighteen communities that qualifies as a Certified Local Government (CLG). In order for the Colt estate stable to be eligible for a CLG grant, the project would need to follow the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation and identify its significance as an historic property. Bristol has received CLG grants in the past involving other historical properties and districts within the town. The significance of the stable as well as how the stable would benefit the community would need to be identified as part of trying to be awarded one of these grants from the state and potentially serve as a partner in the project since the structure is owned by another state government agency.

⁵⁴"Grants: State Preservation Grants" State of Rhode Island Historic Preservation and Heritage Commission, <http://www.preservation.ri.gov/grants/spg.php>

2.1.4.2 Local Philanthropist Approach

Although these are just a few examples of organizations and foundations that could potentially act as an intervention tool for the Colt estate stable adaptive reuse project, it provides evidence of different intervention tools that do exist that could potentially fund the project based on the Preservation initiative behind the project's adaptive reuse goal. However, this is not the only type of intervention tools that are available for this type of project which is typically what most individuals believe. But in fact, the majority of the finances for a rehabilitation project generate from the individuals whom could ultimately benefit from the project. This brings up the question of who benefits from the use? This would bring attention to the local residents of Bristol and who live in close proximity to the stable.

By assessing the local philanthropist approach to this project, the locals whom live in this area will have a large voice in the project and drive availability for funding for the project. This is when each adaptive reuse scenario will need to be assessed and analyzed based on the feasibility findings within this report in almost a "pro/con" situation to determine if the residents would contribute to adaptively reusing the structure. Although both adaptive reuse scenarios would provide economic revenue and benefits for the town, the reuse of the structure could disrupt their daily lives in the area. A horse stable would have specific hours of operation which would typically operate during normal working hours approximately 9 am to 5 pm. This would conserve the landscape that is in existence as well as reverting the area to its original use focusing on the history of the land. A special event venue could potentially disrupt residents of the area. Depending on the hours of operation, weddings typically last into the later hours of the night and would bring loud music and noise which residents could see as a distraction. Each

event would be different which causes this adaptive reuse scenario to be erratic and inconsistent.

The voice and concern of the residents within this area are going to be one of the largest intervention tools within the adaptive reuse process of this structure. As of now, although the stable is historic and has significant value to the community, the poor condition of the stable is an eye sore due to its poor condition and deterioration to locals. The adaptive reuse would allow the historic character of the structure to shine and add to the beauty of the landscape as it originally occupied the land generating support as well as potentially finances towards the project.

However the neighborhood support is going to depend on which scenario is chosen and who will benefit from the use. A horse stable could benefit the local community based on the different potential offerings a stable has whether it is boarding the horse, providing lessons, or serving as a stable for equestrian therapy where on the other hand, a special event venue is not as beneficial to the local residents unless they are hosting an event there which would only be beneficial to that particular individual. Because this scenario would be beneficial for the community, it could raise support from the community to pursue this scenario for the adaptive reuse as a factor that could positively effect the Poppasquash area. Intervention tools are often times the key behind not only the finances of a project but the support of a project as well. In the case of the Colt estate stable, intervention tools can be approached from a preservation standpoint as well as a local philanthropic approach to generate both funds and support to revitalize the stable.

2.2 Adaptive Reuse Scenario

An adaptive reuse is defined as the process that adapts buildings for new uses while retaining their historic features and characteristics.⁵⁵ The adaptive reuse of a structure plays a crucial role in a community by maintaining and preserving its historic characteristics but providing a feasible use that can not only benefit the community but its surrounding area as well. In the case of the Colt estate stable, the stable showcases historic features and characteristics that not only reflect the town of Bristol but its original use as well. Because of the structure's history and significance within the town, it would be beneficial to the public to adaptively reuse the structure. To assess whether or not the adaptive reuse would be feasible for the community, identifying the use is a crucial first step. The first crucial step in determining feasibility of a structure in a community is identifying its new use.

According to Donavon Rypkema, adaptive reuse scenarios are typically organized into nine categories: residential, transient housing, store and commercial, office, entertainment and athletic, educational and religious, industrial, warehouse and storage, and other. The first step in “cutting” down your choices is by using common sense to assess the location of your current structure in relation to what the intended use would be. After narrowing down the categories, there are a number of contributing factors that must be analyzed including: legal limitations, national, regional, and local factors, local real estate market factors, political factors, intervention tools available, and physical/ technical constraints. After these factors are analyzed, it allows either the owner or potential developer of the property to see the context of the current structure's location in contrast to a potential adaptive reuse.

⁵⁵ “Adaptive Reuse” Merriam-Webster Dictionary, Last modified September 2010, <http://www.merriam-webster.com/dictionary/adaptive%20reuse>

With this information, an educated assessment can be made to determine which adaptive reuse appears to be feasible prior to cost estimates and income forecasts. In regards to the Colt estate stable, the contributing factors were analyzed and assessed concluding with two adaptive reuse scenarios: a special event venue and a horse stable/training facility. The remainder of Chapter 2 will define the objectives, constraints, opportunities, and target market for each adaptive reuse scenario. These factors outline and provide a basic understanding of each scenario individually for potential developers and its owner with the intent of defining its use and how it community can benefit.

2.2.1 Special Event Venue

A special event venue hosts unique and special occasions such as anniversaries, weddings, banquets, reunions, and any social or business gatherings. The Colt estate stable would provide a rustic atmosphere with beautiful scenic views of Colt State Park. Its remote location allows guests to have privacy for their event which is away from busy everyday life, but remaining in close proximity to the charming historic downtown area.

A case study example of a similar adaptive reuse project involving an historic barn as a special event venue is the Barn at Gibbet Hill located in Groton, MA. Built in 1906 by General William Bancroft; the barn was renovated and restored in 2004 by its current owners Josh and Jed Webber. The Barn overlooks the rolling hills of Groton and surrounds itself with the New England landscape. The renovated structure kept the historic wood framed interior as well as other historic character



Figure 13.2: Exterior of Barn at Gibbet Hill



Figure 14.2: Interior ceremony space in Barn at Gibbet Hill

defining features such as its windows, doors, siding, and original silo visible from the exterior. Along with keeping its historic characteristics, the new renovated structure built a covered deck

for guests as an extra element and selling point. The Barn at Gibbet Hill accommodates 225 guests and has taken on a “Farm to Fork” approach with its catering. This concept allows the chef’s here to work with and support rising local



Figure 15.2: Aerial Interior View of Barn at Gibbet Hill

farms to increase all business and support the farming community. The Barn at Gibbet Hill is a successful and feasible adaptive reuse story of a historic barn that has transformed into a special event venue that is both valuable and profitable towards the community.

2.2.1.1 Objectives

When determining which adaptive reuse scenario is “most feasible” it is essential to outline the objectives of all involved parties to ensure their objectives would be met when establishing feasibility. This special event venue analysis is a basic breakdown and understanding of each potential participants objectives in this type of adaptive reuse scenario. Even though feasibility is often times associated in the cost break down and income forecast of a project, which will be analyzed in Chapter 6, it will also determine whether or not the participant’s objectives are feasible and measurable within the proposed scope of work. The objectives for this scenario are divided into three categories based on potential participants of the project. The three categories being assessed are the owner’s objectives, developer/investor objectives, and third party objective. Each objective is then assessed based on its financial objective and non-financial objective. Because this scenario does not have a potential developer of third party participant, at

this time, the objectives are determined on a hypothetical basis and basic understanding of the project in context to its adaptive reuse.

Owner Objective: The owner of the structure would determine and identify the vision of the Colt estate stable as a special event venue and to what extent the space would be used for. The owner would outline what types of functions the stable could accommodate for and how the surrounding land would accompany that vision. The objective's outlined by the owner would communicate this vision to not only the community but to potential investors of the intended use of space as well. The vision of the space allows other potential participants to determine the financial and non-financial objectives that would contribute to its overall success.

Financial Objective: The financial objectives for a special event venue would outline how this adaptive reuse scenario would increase in profit over time. To do this, it would be recommended that a marketing and business plan would be devised to address the space's *Revenue, Costs, Advertising, and Profit*. In Chapter 6: Financial Synthesis, the financials for this adaptive reuse scenario is outlined both in rehabilitation costs as well as an income forecast addressing cash flow. Together, these would not only attribute to the vision outlined by the owner's objectives but create goals on how to obtain overall profitability illustrating the economical benefits to this scenario. To determine the fee that should be used for the space, the owner should develop a facility fee. This would create a concrete fee for renting the space rather than charging it on an hourly basis. By establishing this as a financial objective it allows to have more of a concrete income estimate in determining how much revenue will be coming into the space, rather than determining it on an hourly basis. It is recommended that the owner structure each year based on "peak season months" and "off season months." Peak season months would include months

from May to October and Off season months would include months from November to April. To increase profit, the facility fee would be increased for the Peak season months vs. off season months. As outlined in Chapter 6, an additional financial objective for the owner is to have the facility fee vary based on the day of the week. This allows the owner to charge more on a popular day of the week to increase revenue, but also encourage clients to use the space for a lower rate during the weekdays. Chapter 6 is generated on the concept of having the venue closed during January and February as well as Monday and Tuesdays. Another financial objective an owner could establish to increase cash flow is creating a time schedule for weekends. This would allow the venue to book more than one event per day, giving the staff turn around time to set up for the next event which would double the cash flow income for the owner.

Non-Financial Objective: Non-Financial Objectives for a special event venue typically revolve around the concepts of employee satisfaction, quality of work, customer service, and public relations within the community. Depending on the size of the event, this scenario should provide employment opportunities through waitstaff, catering staff, landscape management, as well as a specific positions such as a banquet manager whom organizes and manages the events. The quality of the staff would assist in determining both the quality of work, as well as, the customer service the venue would provide to not only the clients but their guests as well. This is an important aspect in order to generate business and keep the word of mouth of the business on a positive level to continue to generate cash flow. Because of the limited size of the stable, there is not enough space for a full kitchen to prepare food. Encouraging and reaching out to local businesses could create positive public relations and business connections with the community. An owner would create a preferred vendor list with only local vendors of the community on the

list and encourage clients to only work with those vendors. By working with local businesses, it would benefit and promote both parties businesses, as well as, increasing the local economy for the town of Bristol ultimately being beneficial to all involved participants.

Developer/Investor Objective:

A potential investor or developer for this scenario would need to invest capital towards both the rehabilitation and adaptive reuse of the stable along side the owner. Like the owner's objectives, an investor or developer would want their own objectives, in order to obtain a profit and create a revenue with the money they invested within the project.

Financial Objectives: In an adaptive reuse scenario such as an special event venue, typically, investors are entities and focus on financial objectives. In order for an investor to take an interest into the adaptive reuse of the stable, it is important when assessing feasibility, that a cash flow forecast is analyzed. This will illustrate to an investor or developer that investing in this scenario would be beneficial from an economic standpoint and illustrate when they could turn a profit.

Non-Financial Objectives: In the case of an adaptive reuse project such as this, a majority of the time, a developer or an investor typically focuses on financial objectives rather than non-financial objectives. However, it is not an unheard of situation for an investor or developer to have non-financial objectives. For example, an investor or developer could create objectives that showcase their values as a firm that cherishes historic buildings and works towards the preservation of a community. With that, this could establish their reputation as a business that “values the beautification of a community in order to enrich the lives of those who reside there.” Establishing non-financial objectives such as these, for example would help establish the business on a humanitarian level, as well as, creating a public relation and marketing technique.

By using this technique as an investor or developer, it establishes and creates positive attributes towards the reputation of the investor to the community along with generating more business.

Third Party Objective:

Because this scenario outlines a basic understanding of the Colt stable as a special event venue scenario there are no third parties involved in the project. Because of the town's rich history as well as the stable's history. in this adaptive reuse scenario, a preservation organization could become a potential third party in not only securing finances towards the rehabilitation but use the preservation organization as a political tool. Depending on the preservation organization, it could guide politicians to make influential choices that would better the area in which the structure is located and other significant structures. As of now, a third party is not necessary for the rehabilitation however, it cannot hurt to not only have more financial interest as well as non-financial interest. Together, this would help provide a more accurate assessment of participants towards the feasibility of this scenario at the Colt estate stable.

2.2.1.2 Constraints

A business constraint is defined as a fiscal limitation, physical limitation, time limitation, or any other limitation to can anticipate as a factor that affects the achievement of the business goal.⁵⁶ By outlining this scenario within the feasibility assessment, it furthers the understanding of this scenario. However, in any rehabilitation of a property, participants involved in the development of the project will have constraints with the project. It is important and necessary to address and consider these constraints of potential participants. As referenced by Rypkema, he states that the more constraints put on a development, taints the feasibility of this scenario,

⁵⁶ "Chapter 2 Defining Business constraints" Oracle, Last modified 2010 docs.oracle.com

quickly diminishing its overall feasibility. However, these constraints do remain critical for a potential owner, investor, and developer when considering a project.

According to Rypkema, in any rehabilitation project, constraints of the project are typically organized into the following categories: aesthetic, target markets, use of the property, acceptable partners, environmental considerations, image issues, and others. Because there are no owners, developers, or investors in this adaptive reuse scenario at this time, it is difficult to create a concrete list of constraints. However, based on an initial evaluation and visual analysis on the property, a basic list of constraints have been devised that could alter the feasibility of the structure as a special event venue scenario. These basic constraints have been divided using the same categories as outlined by Rypkema.

2.2.1.2.1 Aesthetics

According to the wedding advisor blog *Bridal Guide*, the most common wedding themes for the 2014-2015 year was vintage and rustic chic.⁵⁷ These themes are also current trends for all special events not just pertaining to weddings. The aesthetics of this structure complement this theme and apply to all special events held in the space. Right now with this trend being a most requested theme, it is unclear when this trend will no longer be in vogue. The aesthetics of the structure could potentially cause a problem, once this is no longer a trend in the future. It would limit the number of events that would be held here based on what the client is looking for.

⁵⁷ Kristen O'Gorman Klein "5 Hottest Wedding Trends" Bridal Guide, <http://www.bridalguide.com/blogs/bridal-buzz/wedding-trends-pinterest-contest>

2.2.1.2.2 Target Market

Going along with the aesthetic of the structure and the popular theme previously mentioned, this concept could also be applied to its target market. A special event venue is open to a wide target market catering to many age groups. However, because of the aesthetics of the building, this limits the target market for this space. Not everyone within that target market wants an event in an old stable. It could possibly create a limited target market who would be interested in a venue that's style was not neutralized and was geared towards a specific style.

2.2.1.2.3 Use of the Property

According to the zoning ordinances of Bristol, currently the Colt stable is situated in an OS (open-space) and R-20 (Residential). This scenario would have to go through the Town's Zoning Ordinance Board to establish whether or not that type of space is permitted within the zoning ordinances. In addition to zoning, Mount Hope Farm, a similar special event venue, is only 3 miles away from the current stable's location. It comes into question whether or not a community would need two similar style venues 3 miles from one another. As part of the owner's financial and non-financial objectives, it would need to discuss what attributes would make clients preferably want this venue rather than the other one as part of their business plan. It is a constraint due to the similarities of Mount Hope Farm and without a concrete business plan, there are not too many differences between the two venues.

2.2.1.2.4 Acceptable Partners

As outlined in Chapter 6 it is clear the rehabilitation of the structure is a major economic investment. Finding an acceptable partner is crucial in order for a special event venue to generate a future revenue and cash flow. Whether the partner is a business partner or an investor, either partner would need existing capital to not only rehabilitate the structure and fix any future repairs. Establishing an acceptable partner would need to be financially equipped in order to handle revenue within a space such as this. With this type of space, it is typical to have a partner whom is familiar with this type of venue to help establish the space's revenue to turn a profit.

2.2.1.2.5 Environmental Considerations

Because the structure is located within an historic district, as well as its connection to Colt State Park, the surrounding environment and landscape is critical to the structure. By adaptively reusing the space with new construction, rehabilitation, and formatting the landscape to assist this scenario it could potentially alter the surrounding landscape. This could cause a problem because of the historic significance of both the structure and the significance of the surrounding land within a historic district.. Minimal damage and change would need to occur in order to ensure the development of this project does not disrupt the existing landscape.

2.2.1.2.6 Other

If the special event venue plans to obtain a liquor license for the property, the insurance for the property would increase. The revenue and cash flow would have to be high enough in order to be able to afford the insurance. Some other constraints that would need to be considered for this structure would be the structure is currently out of code. The structure would need to be

up to code during the rehabilitation process which could possibly alter the interior structure as well as updating other systems such as plumbing, electrical and HVAC. The HVAC could be considered a constraint because of the openness of the structure would result in a high heating bill in the winter and high AC bills in the warmer months for clients and guests. This could also affect the revenue of the structure on a seasonal basis. The structure would have to be able to accommodate guests in the winter in order to keep some type of cash flow all year round as well as properly accommodating guests during different seasons.

2.2.1.3 Opportunities

The opportunities that are present for the Colt estate stable as a special event venue is wide open. Because there is no owner or investor currently invested in the project, the stable creates an “open canvas” approach to what the space could potentially become. Looking at this scenario with a basic understanding of what is currently there, there are many opportunities that an owner or investor could use as an advantage points towards establishing their business and encourage clients to use this space.

2.2.1.3.1 Landscape

The surrounding fields, gardens, oceans, and close relationship to Colt State Park create a landscape that can please many clients. The views create an atmosphere from the start of the day by driving through the landscape to when you leave. Guests can enjoy the landscape whether they are outside the structure or looking out the windows enjoying the views. It is often said that a picture is worth a thousand words, however, in this case it could be worth a thousand dollars.

Clients often times pay for their guests to be surrounded by these views along with having those views in their photographs. Because there is not enough room for ceremony space, the surrounding landscape of Colt State Park would be a perfect selling point opportunity to encourage couples to take advantage of the beautiful landscape as a ceremony location.

2.2.1.3.2 Remote Location

Although there are other structures near the Colt stable, as seen in Figure (), for the most part the stable is situated in a remote location. This provides an opportunity to promote privacy for both clients and their guests. This would allow for any special event to use both interior of the structure as well as the surrounding land as part of their event without exterior interruptions.

2.2.1.3.3 Outside vendors

Clients have the ability to choose their vendors which allow them to choose elements such as the food, music, and decorations according to their own specifications. Although this does not appeal to everyone, it provides clients with options. The owners can also have a preferred vendors list consisting of local vendors which would limit the overwhelming options for clients as well as encourage working with other local businesses.

2.2.1.3.4 Rustic Architecture:

The architecture of the stable creates an opportunity to incorporate the close relationship to the quaint New England style downtown area as well as playing a role in Bristol's history within your own individual history.

2.2.1.3.5 Space for Outdoor Tent:

The surrounding land provides room for a tent if a client wanted to expand their event from the interior to the exterior. This would provide clients with options for their events. This area could also be proposed as an opportunity to serve as a ceremony space for a bride to get married on the same site as their reception.

2.2.2.4 Target Market

The profile of the target market for a special event venue at the Colt estate stable, would be accessible for all ages, demographics, and gender. As a special event venue, there is not one specific event that this space can accommodate for. Depending on what the owner's objectives are for the space, once adaptively reused, the structure could be a space used for social and business events as well as community based engagements. The interior of the space provides an open floor plan allowing tables and other furniture to be imported and re-arranged according to EACH individual event making the space extremely user friendly for all events.

The magnitude of the market revolves around the demographics of Bristol. Bristol's population is approximately 22,260 people with a median age of its residents at 44 years old. Specifically focusing on the age demographics of the town, the majority of the demographics are within the 20-29 age group to 60-69 age group. Because the opportunities for a special event venue is such a broad window, it can cater to any age demographic. The majority of population living in Bristol is within the age group that would potentially need a special event venue. This means that based on the profile and magnitude of the target market, a special event venue is a feasible adaptive reuse scenario based on the age demographics of the community.

2.2.2. Horse Stable and Training Facility

A horse stable and training facility is a building in which livestock, in this case horses, are housed and used for equestrian purposes. The concept of a horse stable and training facility as an adaptive reuse scenario allows the space to revert to its original use maintaining its character defining features but altering it to benefit and serve the community. The Colt estate stable would provide a private and remote location for individuals of all ages to come and lease stalls to house their own horses, take part in riding lessons, host a child's birthday party, and learn more about the equestrian lifestyle. The space would need an area that allowed the horses to be groomed, clipped, or bathed as well as a training area to teach horses restraint and patience. Riders can get away from their daily routines and enjoy the open landscape by becoming one with nature in the same way its former occupants did in the past.

A case study example of a stable that reflects elements of the existing components of the Colt estate stable but using a modern approach to accommodate present day amenities is High Meadows Farm in Moultonborough, NH. This 80 acre farm over looks the Ossipee



Figure 16.2: Exterior High Meadow Farm

White Mountains along with panoramic views of the New England landscape. Together, these natural landscapes provide riders with beautiful views while horseback riding. The style of the

barn reflects the characteristics of a typical colonial style barn that holds 8 stalls, a full hay loft, arts and crafts area, as well as a playroom; in similar fashion to the existing layout of the Colt stable.

Along with the interior, the exterior has a playground, picnic table area, hammock, and horse



Figure 17.2: North Elevation High Meadow Farm

jumps to create an inviting space that anyone from the community can enjoy. The exterior appearance of the stable shares similar characteristics with the Colt stable, providing inspiration on how a stable like the Colt stable which is in poor condition today, potentially can look in the future if this scenario is chosen.

2.2.2.1. Objectives

Similar to the Special Event Venue scenario objectives, the objectives for a horse stable and training facility are organized and assessed based on three categories of potential participants: Owner's objectives, Developer/Investor Objectives, and Third Party Objectives. The analysis for a horse stable and training facility is a basic breakdown and understanding of each potential participants objectives in this type of adaptive reuse scenario. To determine feasibility for the intended space, a financial breakdown and income forecast will be analyzed in Chapter 4. Feasibility for the horse stable will also be analyzed base don if the participant's objectives are feasible and measurable within the proposed scope of work. The objectives stated in this chapter

are determined on a hypothetical basis and basic understanding of the project in context to its adaptive reuse.

Owner's Objective: The owner of the structure would determine and identify the vision of the Colt estate stable by bringing the structure back to its original roots and to what extent the structure will now be used for. The owner would need to define how the structure would work in relation to the surrounding land to create a complete concept of a training facility to accompany the stable. The owner would also outline what other functions the stable will accommodate besides housing horses to generate an income cash flow. By the owner establishing their vision for the space and land, it allows other potential participants to determine the financial and non-financial objectives that can attribute to its overall success as an adaptive reuse scenario.

Financial Objective: The financial objectives for a horse stable and training facility would outline how this adaptive reuse scenario would increase in profit over time. To do this, it would be recommended that the owner creates a business plan that would outline each method of income that the owner of the stable intends to use as cash flow. In Chapter 6: Financial Synthesis, the financials are outline both in rehabilitation costs as well as an income forecast addressing its cash flow. Together, these would not only attribute to the vision outlined by the objectives but create goals on how to obtain overall profitability illustrating the economical benefits to this scenario. The owner can structure their financial objectives around the following concepts: boarding, lesson fees for both group and private sessions, birthday parties, and summer camps. Leasing stables can be divided into 2 income scenarios that would offer a basic board and a training board. Other financial objectives that an owner could use as a financial objective but is not listed as part of this report is having competition teams through the stable.

Non-Financial Objective: Non-Financial objectives for a horse stable and training facility typically revolve around the concepts of creating a space that allows individuals to escape the rituals of their daily life. The location of the Colt stable allows individuals to invoke in the natural landscape surrounding the stable away from modern technologies reflecting the original atmosphere of the stable. This objective reflects the owner's objective to preserve the natural agricultural landscape of the area as it is historically depicted. Another non-financial objective for an owner can be it's work with non-profits that work with special needs children outlined in Third Party Objectives.

Developer/Investor Objective: A developer or investor for a horse stable and training facility can revolve around two potential ideas. The stable can be looked at as a property investment in which an investor would focus on the structure and the cash flow the stable will generate based on its forms of income. The second potential idea to generate investor participants is to focus strictly on the horses as a financial investment. Like the owner's objectives, an investor or developer would want their own objectives, in order to obtain a profit and create revenue with the money they invested within the project. However, the type of investor that invests in a horse stable and training facility as an adaptive reuse scenario will need to be determined based on the vision and goals outlined initially by the owner.

Financial Objective: Typically in an adaptive reuse scenario, the objectives of a developer and or investor are typically focused around financial incentives. Depending on the overall objectives defined and outlined by the owner, the financial objectives of an investor or develop could differ. In order for an investor to take an interest into the adaptive reuse of the stable, it is important when assessing feasibility that a cash flow forecast is analyzed. This will illustrate to an investor

or developer that investing in this scenario would be beneficial from an economic standpoint and illustrate when they can turn a profit. As previously mentioned, depending on the main objectives of the owner, besides an investor that is focused on the property, an investor could establish investments on horses. As seen at Bona Venture Stables, investors put down shares on individual racing horses with 10% increments. Each investor is required to have a 2 year period contract depending on the horse's overall condition and potential earnings. Bona Venture Stables acknowledges each horse's overall earnings on a quarterly basis. Each winner of the race receives a percentage of the total winnings and the remaining winnings, the investor keeps. This is one example of a financial objective of an investor that another investor did to earn profit on their income, however, it must reflect the values and incentives of the owner.

Non-Financial Objective: In an adaptive reuse scenario of a horse stable and training facility, a majority of the time, a developer or an investor typically draws focus on financial objectives rather than non-financial objectives. This is not always the case. However, because this scenario involves horses, an investor or developer can create their objectives that showcase their values regarding the proper treatment of animals and associating their investments with animal rights organizations. By associating themselves with charitable organizations that focus on issues such as these, it provides good publicity for the investor.

Third Party Objective: Because this scenario outlines a basic understanding of the Colt stable as a horse stable and training facility there are currently no third parties involved in the project. However with a scenario such as this, there suggests opportunities for non-profits to participate as a third party participant. In recent years, medical research has linked helping individuals who suffer from special needs with benefiting from equestrian therapy. Research has found that

horseback riding benefits children and adults with special needs such as cerebral palsy, Down's syndrome, and autism to increase their self-esteem and emotional well being, behavior, core strength, confidence, and many other important qualities of life. ⁵⁸There are organizations around the United States that focus on this exact type of therapy. An organization that focuses on equestrian therapy could use the Colt estate stable as their home base. Non-profit organizations such as Kids Rein, provides riding lessons one day a week for 50 minutes for children suffering from special needs. Each lesson they offer is a \$45 donation. If the Colt stable was involved with a similar non-profit organization, the donations acquired from the lessons could be used for structural repairs to the stable. By engaging with a third party such as this, would be not only be beneficial for the community but the state of Rhode Island and other surrounding states. With working with a non-profit organization, it would create an incentive for the stable because it would allow the service provided by the owner and the stable to be tax deductible. Although this is a popular form of therapy, there is a limited amount of stables that offer this specific type of therapy. It would allow the Colt stable to give back to the community as well by allowing community members to volunteer to assist in this cause. All in all, by introducing a third party participant to this scenario would increase the number of people who came and used the stable, generating more business and promoting opportunities that can positively benefit the stable economically and also from a public relations standpoint.

2.2.2.2. Constraints

Outlining this scenario within the feasibility assessment, furthers the understanding of this scenario by addressing the constraints of the potential participants. Participants involved in

⁵⁸ "Equine Therapy for Children with Asperger's and Autism" Equine Therapy: Animal Assisted Therapy, <http://www.equine-therapy-programs.com/aspergers.html>

the development of the project will have constraints with the project. It is important and necessary to address and consider these constraints of potential participants. As previously referenced by Rypkema, he states that the more constraints put on a development, taints the feasibility of this scenario, quickly diminishing its overall feasibility. These constraints remain critical for a potential owner, investor, and developer when considering this scenario.

The constraints of this adaptive reuse scenario are outlined using Rypkema's categories: aesthetics, target markets, use of the property, acceptable partners, environmental considerations, image issues, and others. Because it is unclear of the potential participants, the constraints for the horse stable/training facility scenario are created based on an initial evaluation and visual analysis on the property creating a basic constraint list that could alter the feasibility of the structure as a horse stable/training facility. These basic constraints have been divided using the same categories as outlined by Rypkema.

2.2.2.2.1 Aesthetics

Because the Colt estate stable was originally a stable barn, the aesthetics of the structure would ultimately reflect the aesthetic similarities that are existing within the structure. However, since the stable was originally constructed in 1901, there have been many building technologies that now accompany newly constructed stables. Because the stable needs rehabilitation work to repair the damaged building fabric, potential participants might worry that by integrating these building technologies it might alter the overall look of the structure based on its fabric. It depends on what approach the owner wishes to use when examining the new aesthetic of the structure. In reality, the new stable should look almost identical to the original stable in order to keep the structure's character defining features.

2.2.2.2.2 Target Market

The target market for this type of structure would be focused on children whom wish to learn how to horseback ride as well as individuals who wish to lease a stall to hold their own horse. Although there are many adults whom would be interested in horseback riding as well, children can also bring in revenue for summer camps and birthday parties. The constraint with this is it is geared towards a very specific target market. It is unclear whether or not there is a target market in Bristol to generate enough cash flow income to support the scenario. Although there is not a stable such as this in Bristol, there is one in both Portsmouth and Newport. Potential participants could view this as a constraint due to the specifications of the target market and if this type of space is needed.

2.2.2.2.3 Use of the Property

According to the zoning ordinances of Bristol, currently the Colt stable is situated in an OS (open-space) and R-20 (Residential). Because the area was originally used for this use, implementing the space as a stable would be plausible based on zoning. Looking at the use of the property as a constraints revolves around the concept of is there a need for this type of space in Bristol? As previously mentioned, there are stables in nearby towns but not in Bristol itself. Determining a need for this scenario would need to be established prior to the rehabilitation process because if there is not a need for this type of structure, there will be no cash flow or forms of income to support the costs and turn a profit.

2.2.2.2.4 Acceptable Partners

As outlined in Chapter 6, it is clear the rehabilitation of the structure is a major economic investment. Finding an acceptable partner is crucial in order for a horse stable and training facility to generate a future revenue and cash flow. An acceptable partner of the project would need existing capital to not only rehabilitate the structure and fix any future repairs. Establishing an acceptable partner would need to be financially equipped in order to handle multiple cash flow revenues within a space such as this. With this type of space, it is would be beneficial to have a partner whom is familiar with this type of profession to help keep the operations of the stable running smoothly.

2.2.2.2.5 Environmental Considerations:

Because the structure is located within an historic district, as well as its connection to Colt State Park, the surrounding environment and landscape is critical to the structure. Although the stable would be using the surrounding landscape as part of the horse stable and training facility, a potential participant could see this as a constraint because the surrounding land would know be used and possibly damaged by the foot traffic from the horses. It ultimately would be interrupting the existing condition of the land as it has been since 1965, as well as prior to when Samuel Colt was still the owner of the stable. The environmental considerations can be seen as both a constraint as well as a positive and beneficial aspect to the community by returning the stable to its original historical value and function.

2.2.2.2.6 Other

Some other constraints for potential participants would be insurance and liability, medical attention, and not enough land for horses. When operating a stable it creates substantial liability when operating for financial gain. From a insurer's perspective objectives such as boarding, training, and lessons all create high liability claims. The owner of the stable would need to obtain commercial liability insurance as well as care, custody, and control insurance if they intend on boarding horses within their facility. The custody and control insurance would need to be sufficient enough to cover the most expensive horse boarded within the Colt stable. Because the target market is focused around children, there would be high liability for a stable. If a child ever got seriously injured at the stable or with equestrian methods, it could open the stable to liability ultimately closing the stable.

Another constraint for potential participants would be bringing in a veterinarian to check up the horses and provide medical attention for the animals. Depending on how many horses are within the stable and based on whether or not the horse is seriously injured or sick, bringing in medical attention could get expensive. It would be a necessary especially if the owner's objectives revolve around boarding the horses for cash flow.

2.2.2.3. Opportunities

The opportunities that are present for the Colt estate stable as a horse stable and training facility presents a variety of opportunities that could benefit the residents of Bristol as well as to the surrounding communities. Because there is no participants interested in this specific scenario at the moment, it creates an "open canvas" approach to what the space could potentially become.

Looking at this scenario with a basic understanding of what is currently there, there are many opportunities that an owner or investor could use as advantage points towards establishing their business and promoting business for the space.

2.2.2.3.1 Birthday parties

Birthday “Pony Parties” allows the owner to charge either an hourly rate or a per person/per hour rate. The stable would also need to include a space that could accommodate the birthday parties for refreshments, however this would generate a large amount of revenue for the stable. Depending on the number of horses, this could potentially create a limit on the number of children allowed to attend a party here, however, if birthday parties were an objective by the owner, other aspects could be installed to accommodate children not on horses. Birthday parties can have a general rental space fee to use the horses or have a fee per child per hour they are at the stable.

2.2.2.3.2 Group/ Private Riding Lessons

Lessons are one of the largest contributions in generating cash flow for a stable. The stable can offer both group and private lessons. Group lessons could be targeted and marketed to tourists visiting the area and private lessons would be a perfect opportunity for children, students, and other individuals interested in learning to ride. It would provide an opportunity for an owner as part of their financial object to increase the rates for private lessons vs. group lessons which would bring in more income. Private lessons can be offered in half hour intervals and hour intervals and group lessons are typically offered in hour intervals.

2.2.2.3.3 Boarding

Although the Colt estate stable is a smaller stable, by reserving a few stalls specifically for individual horse owners to lease would provide the majority of your income that would be a reliable source each month especially during winter months when income might not be a regular. Stables typically offer a Training board package and a basic package. A training board package offers the renter training as part of their board fee. A basic package strictly pays for the room and board of the horse.

2.2.2.3.4 Camps

As part of the target market, camps are a way to have consistent cash flow income during the summer. By creating a flat rate for campers, it would generate weekday business especially with parents whom work during the day. Camps can be offered on weekly time frames as well as offered as a per day element as well. This would allow flexibility for campers, but still produce income.

2.2.2.3.5 Competition teams

Equestrian teams would have the ability to use the stable and training facility as a place to practice for competition teams. It would provide opportunities especially for Roger Williams University, who currently uses Glen Farm in Portsmouth, RI and allow a competition team to take part of their craft within the Bristol Community.

2.2.2.3.6 Open surrounding land also owned by the state:

Stables often times require a significant amount of land to accompany a stable and training facility. The state of Rhode Island acquired the stable in 1965 and also owns the surrounding land adjacent to the stable. By having the stable and land owned by the same person, it does not limit the amount of space the stable can use based on other property owners. It allows

creates an opportunity to save money as well, by having the same owner, it does not require the purchase of more land. This money could go towards the rehabilitation of the structure.

2.2.2.4. Target Market

The target market profile for this scenario would be focused on children whom wish to learn how to horseback ride as well as individuals who wish to lease a stall to hold their own horse. Although there are adults who would be interested in horseback riding as well, children can also bring in revenue for summer camps and birthday parties. The owner of the stable could aim it's target market towards the tourist population. Bristol is a summertime tourist area. Advertising this to tourists as "take a horseback riding trail in the Poppasquash Historic Farm district and scenic landscape while taking in ocean front views through Colt State Park." With the right marketing proposal, it could generate another type of clientele during the summer months to accommodate for slower cash incomes during winter. In reality, the target market could realistically be any individual whom is interested in equestrian practices. However, to generate business, the owner should develop marketing strategies catered towards specific groups, which will create a focus to generate income. Because a majority of the income and cash flow methods revolve around children, that would be the primary target market to start.

If focusing on the target market's profile as children, the magnitude of the market in Bristol that out of the approximate 22,260 population that approximately 5,000 of the entire demographics is children from 0-19.⁵⁹ This can be seen as a positive and negative component towards the feasibility based on the target market. The children demographics indicate that the

⁵⁹ "Bristol Lifestyle and Demographics" [realtor.com](http://www.realtor.com/local/Bristol_RI/lifestyle) Last modified 2014, http://www.realtor.com/local/Bristol_RI/lifestyle

target market for a horse stable scenario are on the lower end. It is unclear if there is a target market in Bristol based on the demographics. On the positive side, the majority of the population consists of individuals aging from 20-69. These individuals could use the stable for boarding as well as lessons, which could potentially make this scenario feasible. Although this is the recommended target market based on initial observation and research, after the first standardized operating year, the owner should re-evaluate the overall cash flow and income for the property which might alter the target market. Based on the magnitude of the market, it is uncertain if a horse stable and training facility would be a feasible adaptive reuse scenario.

CHAPTER 3: METHODS AND ORGANIZATION

3.1. Overview

In order to determine which adaptive reuse scenario is most economically feasible for the Colt estate stable, the methods in determining this scenario are broken into three categories; existing conditions assessment, scope of work, and financial synthesis. The existing condition assessment is conducted, on both the exterior and the interior of the structure, to determine the current status of the structure. With this, the next category in determining feasibility is establishing a scope of work. This step reflects the assessments made on the existing conditions of the structure in establishing what needs to be done to the structure. The third category is establishing both the cost estimates of the construction process for each scenario, based on the scope of work, in comparison to the pro forma statements of both adaptive reuse scenario calculated by Jacob Wheeler. By establishing a financial synthesis for both scenarios, it determines which adaptive reuse is more economically feasible for the structure and for Bristol. Along with determining feasibility based on the financial evidence calculated, the feasibility of each scenario is also measured using the tool of visual analysis. In this report, the visual analysis refers to the floor plans, created by Pedro Ortiz, illustrating the floor plan of each new adaptive reuse scenario. Each potential floor plan illustrates what the space could potentially look like and if the scenario can feasibly work within its existing footprint. Each adaptive reuse scenario has two different scenarios; one illustrating the adaptive reuse using the existing foot print and the second scenario using the existing footprint with an addition accompanying the existing structure.

Both adaptive reuse scenarios would use and incorporate the surrounding land adjacent to the existing structure. This land is also owned by the state as well as part of the Poppasquash Historic District. Although the focus of this feasibility study does not focus on the adjacent land to the structure, it is important to mention because of its historic value and visual attraction; it makes the space a more desirable from not only the Bristol community but outside visitors as well.

3.2. Organization and Methodology

This study will focus on the economic potential and feasibility for the Colt estate stable in Bristol, Rhode Island by analyzing two potential adaptive reuse scenarios. The first of which is a special event venue and the second scenario is returning the structure back to its original roots as a horse stable and training facility. To guide the overall structure and organization of the report Donovan Rypkema's book, *Feasibility Assessment Manual for Reusing Historic Buildings*, was used to determine which factors are assessed and analyzed to determine the economic potential and feasibility of the stable. Based on the analysis of the contributing factors, it will provide the evidence to establish which scenario is the most most feasible scenario to adaptively reuse the Colt estate stable.

Before each adaptive reuse scenario is analyzed in determining which adaptive reuse scenario is the most feasible for the space, the assumptions and limitations of the project are analyzed. This consists of the overall objections for this rehabilitation, legal limitations, real estate market factors, and the national and regional factors; creating a "big picture" approach to the location of the potential adaptive reuse scenarios. The adaptive reuse scenarios are individually divided into an existing conditions assessment, scope of work for both the interior

and exterior, and a financial synthesis analysis. The financial synthesis will consist of the cost of rehabilitation for that particular use along with an income forecast. Collectively, the data contributing factors combined with the “big picture” will determine and inform how feasible it would be to rehabilitate the Colt estate stable.

The existing conditions report for this feasibility study is organized along the lines of the existing conditions analysis of a historic structures report. According to the *Historic Structures Report & Preservation Plans Preparation Guide*, by organizing the existing condition assessment in the format of a historic structures report, it will broaden the owner’s overall understanding of the existing condition of the structure and assess the impact of the proposed alterations in the scope of work by respecting the historic fabric in regards to the adaptive reuse scenario.⁶⁰

The assessment within the report is divided into the exterior and interior conditions of the structure. The exterior existing conditions assessment is surveyed starting with the foundation and moving up to the roof. Each elevation of the structure is given a general assessment according to the rating system outlined in the report as well as providing a more detailed assessment for each exterior architectural element, also using the same rating system. The interior existing conditions assessment is surveyed based on interior architectural elements in the same fashion as the exterior assessment. Both the exterior and interior assessments is accompanied with current photographs, as well as, floor plans, located in the Appendix, serving as a visual representation to the conditions assessment descriptions.

⁶⁰ Dominique Hawkins, “*Historic Structures Report & Preservation Plans Preparation Guide*,” (National Park Service; New Jersey, 2007), 6.

After assessing the existing conditions of the structure, there are many substantial issues with the current structure. With the existing condition of the structure in such poor shape, the result of this diagnosis leads to having a larger scope of work for the rehabilitation of the Colt estate stable. With this information, this feasibility report will include several visual representations of the existing conditions of the structure along with visual aids based on the scope of work. Together, these representations will assist in embodying the current condition along with visually rendering if the existing structure is physically feasible to support the adaptive reuse scenario proposals.

The visual representations will include exterior elevations of the structure depicting the materials of the structure as well as their current condition, interior and exterior floor plans of the structure, and a roof plan. These drawings visually represent how much damage is presently at the structure informing the owner and potential investors how much work needs to be done to complete a rehabilitation of the structure. Along with the existing condition drawings, a visual representation for the Scope of Work has also been created using Rehabilitation Plans, indicating the work that will be completed based on the existing condition survey. In addition to this visual representation, a window survey has been created indicating a visual guide for the style of windows throughout the structure. This will become a useful visual aid if using the existing window is beyond repair, and a new window needs to be installed. In Chapter 6: Financial Synthesis, a visual representation of both adaptive reuse scenarios has been visually represented, outlining if the structure is physically feasible to rehabilitate to each adaptive reuse scenario. These visual aids will be located in the Appendix of this report.

Photographs have been included within the Appendix of the report to serve as an additional visual representation for the Existing Condition Survey. Photographs of the structure consist of both the exterior and interior conditions, as well as, specific architectural elements that are considered character defining features to the structure or are significantly damaged.

Photographs of the structure have been taken by staff members of the Roger Williams University Community Partnership Center (CPC.) The CPC provides project-based assistance to nonprofit organizations, municipalities, government agencies and low to moderate income communities within the area. The mission of the CPC to complete projects that not only benefit the community but provide students with real life experience to accompany what is being discussed within the classroom.

The elevations and floor plans of the structure included within this report have be drafted based on the measurements taken on-site with the assistance of the CPC. The elevations and floor plans have been created by CPC draftsman Pedro Ortiz.

CHAPTER 4: CONDITION SURVEY

4.1. EXISTING CONDITION ASSESSMENT

In reference to the Secretary of Interior Standards for Rehabilitation, the National Park Service states, “Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.”⁶¹ The concept outlined within the Secretary of Interior Standards is the main approach in the report’s assessment and rehabilitation approach. This concept will be reflected in the Scope of Work, outlined later in this chapter, after the existing condition of the structure is properly diagnosed. A more detailed explanation regarding each adaptive reuse scenario’s plan to follow these guidelines will be discussed in Chapter 6: Financial Synthesis.

Due to the vast deterioration of the structure, as outlined in 4.3 *Existing Condition Survey*, it is evident that the majority of the existing historic fabric is beyond repair. Chapter 4.4. scope of work incorporates the use of some new material while keeping the historic characteristics of the structure to maintain the character defining features of the structure. In cases where it is plausible, the original historic fabric will remain part of the rehabilitation process for both adaptive reuse scenarios. Chapter 4.3. existing condition survey outlines the architectural components visible and used in the structure informing the proper recommendations for cost estimates and informing the owner of the appropriate recommend treatments. The scope

⁶¹ “ Secretary’s Standards of Rehabilitation,” National Park Service, last modified in 1997, <http://www.nps.gov/tps/standards/rehabilitation.htm>.

of work, based on the existing condition survey, will play a critical role in determining which scenario is most feasible as well as determining which scenario is most feasible based on whether or not the historic characteristics of the structure remain evident.

4.2. Existing Condition Survey

When conducting the existing condition survey of the Colt estate stable, there were many character defining features identified; the cupola, weathervane, transom windows, window configuration, barn doors on north elevation, wood shingle siding, and the stable's landscape. These character defining features are consistent with agricultural structures of the late nineteenth and early twentieth century as well as the Bristol community.

The existing condition survey was conducted on two different occasions, October 30, 2014 and January 12, 2015 both within the 2014-2015 academic school year. Previous existing condition assessments on the structure occurred in 2012 in association with the CPC. The exterior and interior existing conditions assessment is organized using the CSI MasterFormat. The CSI MasterFormat is the standard method of organizing construction specifications and allows information about the structure to be divided into specific categories or systems referred to as Divisions. The advantage of organizing the existing condition information using the CSI MasterFormat is it allows the information about the structure to be divided by systems or categories which in return can be used during for the construction process. The stable has remained vacant in its current location since 1965. Both the the exterior and the interior

architectural elements is assessed using a rating system. The rating system used for the exterior and interior existing condition assessment was independently developed.

Excellent Condition: Less than 10% of historic fabric is damaged or missing.

Good Condition: 25% of historic fabric is damaged or missing.

Fair Condition: 50% of historic fabric is damaged or missing.

Poor Condition: 75% or more of historic fabric is damaged or missing.

Missing: Architectural element of fabric is completely missing from original location.



Figure 18.4: Existing condition of North elevation

4.3. Exterior Existing Conditions

The exterior existing condition assessment is first assessed indicating the overall condition of each elevation of the structure then the exterior conditions is organized using the CSI MasterFormat divisions providing a more in-depth analysis of the systems of the stable.

North Elevation Overall: The north elevation is in poor condition. The north elevation has three 6-over-6 windows and a transom window above the barn doors. The transom window consists of four 3-over-3 window panels is in poor condition. The north elevation has two doors, a barn door and a traditional wood panel door. Both doors are covered with plywood boards. Environmental growth and branches are covering the top left of



Figure 19.4: North Elevation



Figure 20.4: North Elevation

north elevation near roofline. Approximately 45% of clapboard siding is missing and paint failing on remaining clapboard siding.(Figure 18.4)

South Elevation Overall: The south elevation is in fair condition. South elevation consists of barn door as well as hay loft doors on second floor of structure, both not functioning. Transom window above barn door in fair condition. Transom window consists of 2 3-over-3 windows.

Framing around transom in poor condition. Paint on South elevation is failing. (Figure 18.4)

West Elevation Overall: West elevation is in poor condition.

Fascia and soffit is missing.

Clapboard siding is missing and paint is failing. Elevation consist of 4 hopper/awning style windows.

Windows are not functioning.

(Figure 20.4)

East Elevation Overall: East elevation is in poor condition. Garage door on East elevation is in poor condition and does not function. Elevation consists of 4 6-over-6 double hung windows.



Figure 21.4: West Elevation



Figure 22.4: East Elevation

All glass and frames of windows are damaged and in poor condition. East elevation consists of 4 awning/hopper windows that are also in poor condition. Plywood boards covering 2 of windows. Clapboard siding is missing approximately 50% of original material exposing sheathing. Sheathing is also missing approximately 15% on East elevation exposing to interior of structure to exterior elements.

Division 2: Site Construction

- Foundation is in fair condition. Foundation is made with large stones and covered with a stucco or concrete covering.
- Exterior stucco or concrete layer of foundation is in poor condition, exposing stones underneath.
- Foundation does have evidence of cracking on each elevation. Unclear if cracks attribute to structural integrity. It is unclear of the structural integrity of foundation. Further analysis needed from structural engineer to determine current condition of foundation.

Division 4: Masonry

- Masonry in chimney is in good condition. Chimney is constructed with brick blocks. (Figure 23.4)
- Bricks are laid out in flemish bond pattern.
- Mortar joints in chimney are in fair condition.
- Chimney flashing is in poor condition.



Figure 23.4: Chimney view at East elevation

- Existing style of chimney reflects historic chimney profile based on 1901 historic image. (Figure 1.1)

Division 6: Wood and Plastics

- Clapboard siding in poor condition. Siding is made with red cedar clapboards. (Figure 24.4)
- Approximately 50% of clapboard siding is missing or severely damaged throughout building's exterior.
- Sheathing is in fair condition.
- Approximately 35% of sheathing is missing creating no protection to the interior from exterior elements.
- Environmental growth and branches approximately 25% on North elevation.



Figure 24.4: Clapboard siding damage. North Elevation

Division 7: Thermal and Moisture Protection

- Roof is in fair condition. No holes visible from ground level, further investigation needed to get proper analysis of roof's overall condition.
- Roof appears to be made with asphalt shingles.
- Roof flashing in poor condition.
- Cupola on roof is in fair condition. Unclear of cupola's structural integrity. Cupola is missing



Figure 25.4: Cupola and Weathervane on roof

approximately 75% of clapboard siding. Asphalt roofing on cupola appears to be in poor condition.

- Weathervane on cupola is in poor condition. In reference to 1901 image appears to have a “running horse” motif on top of weathervane. Running horse is currently missing after theft in previous years. (Figure 25.4)

Metal used to construct navigational directions is tarnished and in fair condition.

- Soffit, fascia, and molding in poor condition on all elevations. Soffit and fascia missing on West elevation of structure.

Division 8: Doors and Windows

- Windows are in poor condition. Windows consist of hopper/awning style windows, 6-over-6 double hung windows, and transom windows.
- Windows appear to be made with cylinder glass panes.
- Glass panes are missing on windows on North



Figure 26.4: 6-over-6 Double Hung Window on North Elevation



Figure 27.4: Door and Transom Window North Elevation

- and East elevation.
- Windows on North, East, and West elevation are not in functioning order
- Windows on North and East elevation are in poor condition and missing the rail, muntion, and frames of the windows.
- Doors are in poor condition. Structure consists of three door styles on the structure; a traditional barn style door on the North and South elevation, a wood panel door on the North elevation, and garage door on the East elevation.
- Sill of door frames is in poor condition and showing failure due to wood rot.
- Panel wood door is covered with plywood boards to cover damage on North elevation. (Figure 28.4)
- Large barn doors on North and South elevation are not functional. Barn door on North elevation is covered with plywood boards. (Figure 27.4)



Figure 28.4: Panel wood door. North elevation.

Division 9: Finishes

- Exterior paint has failed is in poor condition. Unclear if paint is lead based. Further paint analysis needed to determine.
- Paint is failing exposing wooden clapboards on North, South, West, and East elevation.

4.4. Interior Existing Conditions

The interior existing condition assessment is also organized using the CSI MasterFormat. The information is categorized using Divisions to organize the conditions.

Division 2: Site Construction

- Structural framing members overall in fair condition. 6x6 structural members in basement are in poor condition and appear to have deterioration because of rot.
- Structural members need proper analysis and inspection by structural engineer to determine integrity. (Figure 29.4)



Figure 29.4: Interior Structural Beams

Division 3: Concrete

- Concrete floor in fair condition. Evidence of both large and small cracks in basement floor. Unclear if cracks are affecting the structural stability.
- Engineer needs to inspect concrete floor in basement to determine if the cracks are affecting the structural integrity of structure.

Division 6: Wood and Plastics

- Interior sheathing and lath is in poor condition. Sheathing is missing in approximately 35% of interior, providing no protection from exterior conditions as well as animals.
- Board and batten paneling are structurally in fair condition. (Figure 30.4)
- Stables are constructed with wood partitions that are in fair condition. Wood partitions are constructed with wood on lower half and metal bars on upper half to allow air circulation for horses.
- Existing wood plank floors in poor condition. Wood planks have areas of deterioration due to rot with some areas of the floor having holes along with evidence of animal feces and former stable debris.

- Sub-floor appears to be in fair condition. Stairs need to be inspected by structural engineer to determine if replacement is necessary. Stairs go to second floor which originally was a hay loft as well as a bedroom for whomever worked in the stable.



Figure 30.4: Interior doors and board and batten paneling

- Stairs are in fair condition. Stairs are not up to building code. Wood planks on stairs are in fair condition. Stairs need to be

- inspected by structural engineer to determine structural integrity.

Division 8: Doors and Windows

- The condition of the structure's windows and exterior doors is outlined in 3.4.1.:Exterior Existing Conditions
- Interior doors are in fair condition. Interior doors are wood paneled style doors. Paint on doors is failing. Unclear if paint is lead based paint. Paint analysis will need to be conducted to determine.

Division 10: Specialities

- Fire protection system is missing from structure's interior.

Division 11: Equipment

- Security system is missing from structure.

• Division 15: Mechanical

- HVAC system is missing from structure.
- Existing plumbing appears to be in poor condition. Unclear if pipes are lead based. Further testing and analysis needed to determine for proper recommendations for Interior Scope of Work.

Division 16: Electrical



Figure 31.4: Interior door facing North elevation

- Existing electrical system present in the structure is in poor condition. Electrical is out of code and out of date. Unclear when the last time the electrical system was used in the structure.

CHAPTER 5: SCOPE OF WORK

5.1. Scope of Work

The scope of work for the Colt estate stable is an outline of the elements that need repair and how each element should be repaired based on the Existing Condition Survey. The scope of work outline is organized using the CSI MasterFormat divisions, as well as, divided by the Exterior and Interior. The purpose of the scope of the work is to outline what needs to be done to assemble an accurate cost estimate for each adaptive reuse scenario. These cost estimates are one of the leading components that determine which adaptive reuse scenario is most feasible for the current structure.

Because of the time constraints associated with this feasibility study, there are certain elements that are not included within this study's scope of work and in return the cost estimates. The cost for custom architectural features and the structure's compliance to building and fire codes were not incorporated in the cost estimates and the report. The cost estimates listed within this report should not be seen as precise estimates for owners and potential investors but a mere guidelines for each adaptive reuse scenario. The interior cost estimates just include the basics components for each adaptive reuse scenario. To receive a more accurate estimate, the scenario would have to be chosen and more exact decisions would need to be chosen by the owner. The scope of work was also organized using the CSI MasterFormat divisions like Chapter 4.3.Exterior Existing Conditions and 4.4. Interior Existing Conditions.

5.2. Exterior Scope of Work

Division 2: Site Construction

- Concrete and stucco analysis should be completed on foundation prior to rehabilitation to determine the type and cause of problems in order to prevent future deterioration and to create a maintenance plan.
- Structural engineer shall be consulted to assess structural integrity of structure in relation to foundation.
- All foundation patching shall match similar in color and texture to historic foundation.
- Spalling shall be repaired by removing any loose or unsound material and position a patch in area that is consistent with the existing foundation.
- Cracks shall be repaired according to their size and whether or not the cracks are active or inactive.
 - Small inactive cracks shall be repaired with a mixture of cement and water with similar color of existing foundation.
 - Large inactive cracks shall be repaired with mixture of cement, water, and sand. If crack affects structural integrity of the foundation, crack shall be injected with epoxy. Epoxy shall consist of a two-part gel material that contains 100% solids.⁶²
 - Active cracks shall be repaired by using expansion joints. Expansion joints shall be filled with an elastomeric sealant.
- Environmental growth and branches shall be removed from exterior clapboard siding.

⁶² "Repairing Cracks in Concrete By Injecting Epoxy Resin," U.S. General Services Administration (2012) <http://www.gsa.gov/portal/content/111622>

Division 4: Masonry

- Chimney shall be repaired.
- Mortar on chimney shall be repaired and repointed. New mortar strength shall be lower than masonry units to prevent future cracks in masonry units and spalling.
- Mortar shall match color of historic mortar.
 - Contractor shall prepare test panel before repointing begins to test colors, types of mortar used, and techniques that could be used on project.
- Missing masonry units shall be replaced with new units that reflect same shape, size, and color of existing units.

Division 6: Wood and Plastics

- Remove all existing exterior clapboard siding.
- Sheathing shall be removed and replaced if existing sheathing is damaged once clapboard siding is removed.
- Replace damaged sheathing with either new plywood or OSB sheathing.
- Clapboard siding shall be replaced with new siding. Clapboard siding should be nailed at top of siding and nails shall clear previous course creating a 1" minimum lap to prevent clapboards from splitting.
 - *Option #1:* Red Cedar clapboard siding. 8 " siding shall be used with 5" exposure.
 - *Option #2:* *James Hardie* HardiePlank Lap Siding: Cedar mill Autumn Tan: Closest color to existing color. Thickness= 0.312" Length 144" Widths 5.25"(Exposure 4") 6.25 (Exposure: 5")

Division 7: Thermal and Moisture Protection

- Second floor/Loft area of stable shall be inspected and examined for evidence of dampness, water and/or salt staining, and structural integrity.
- Existing roof, flashing, drainage system shall be removed and replaced.
- Holes in roof shall be repaired with plywood or roof sheathing.
- New roof system shall be installed. This consists of roofing felt, asphalt shingles that have 4-5" exposure, flashing, sealants, and drainage system.
- Asphalt shingles shall match the original shape, size, and color of original shingles.
- The base and the sill of the cupola shall be repaired with same siding consist with the structure.
- Roof of cupola shall be removed and repair with asphalt roof shingles.

Division 8: Doors and Windows

- Plywood boards covering existing windows and doors shall be removed.
- Paint on door shall be removed. Paint analysis shall be completed to ensure proper precautions take place in removal of paint.
- Doors shall be inspected for termite damage and wood rot. Damaged planks shall be removed and replaced with planks of similar size, shape, and thickness.
- Exterior barn doors shall be replaced if damage is beyond repair.
 - *Option #1:* Barn Pros Equestrian Facilities Large T&G Breezeway Barn Door with Window, W/Hardware SKU: WDB-101-W.
 - *Option #2:* Real Carriage Door Co. Classic Z Brace Outswing Doors (CL05),
- Door on North elevation shall be replaced if damage is beyond repaired.

- *Option #1: Pella Classic Door: A76G4*
 - *Option #2: Steves & Sons Model # M2203-CT-PJ4RH Internet # 205341804Shaker 3 Lite Stained Mahogany Wood Entry Door*
- Windows shall be repaired where they can and replaced if window is beyond repair.
- *Option #1: Repair Windows:*
 - Interior and exterior paint shall be removal. Paint analysis shall be completed to determine if lead paint is present. Proper removal precautions shall be taken.
 - Sash shall be removed and repaired. Sash shall be reglazed where necessary. Sash shall be weather-stripped prior to being re-installed.
 - Window frame shall be repaired.
 - Window frame and sash shall be repainted according to *Division 9: Finishes* instructions.
 - Missing glass panes shall be replaced with panes of floating glass.
- *Option #2: Replacement windows:*
 - Windows that cannot be repaired shall be replaced with either 6-over-6 double hung windows or hopper/awning window. Window style shall be noted on rehabilitation plans.
 - *6-over-6 Double-Hung Windows Replacement Option #1: Pella Windows Designer Series® Double-Hung Window*
 - *6-over-6 Double Hung Window Replacement Option #2: Marvin Next Generation Ultimate Double Hung*
 - *Hopper/Awning Window Replacement Option #1: Pella Windows Designer Series® Awning Window*

- *Hopper/ Awning Window Replacement Option #2: Marvin Ultimate Awning*

Division 9: Finishes

- Paint analysis shall be conducted to determine if lead paint is present. Proper precautions shall be taken in removal process.
- All wood shall be primed with oil-based primer before paint is applied.
- Contractor shall prepare a comparison field test panel of potential topcoat exterior paint options.
- Topcoat shall be either oil-based topcoat or waterborne 100% acrylic topcoat paint.
- Exterior paint shall reflect Colonial Revival color scheme and existing

Exterior Clapboard Option #1: Pratt & Lambert 1760

Exterior Clapboard Option #2: Benjamin Moore 290

Exterior Trim Option #1: Pratt & Lambert 1426

Exterior Trim Option #2: Benjamin Moore China White

5.3. Interior Scope of Work

Divison 2: Site Construction

- Structural members shall be inspected by engineer to ensure structural integrity.
- 6x6 structural member in basement shall be removed and replaced.
- Supplemental members shall be installed to support weight distribution during replacement.
- New structural members shall be installed.

Division 3: Concrete

- Engineer shall inspect concrete floor in basement to determine structural integrity.
- Concrete floor in basement shall be repaired with patches.
- All concrete floor patching shall match similar in color and texture to historic concrete.
- Spalling shall be repaired by removing any loose or unsound material and position a patch in area that is consistent with the existing concrete floor.
- Cracks shall be repaired according to their size and whether or not the cracks are active or inactive.
 - Small inactive cracks shall be repaired with a mixture of cement and water with similar color of existing foundation.
 - Large inactive cracks shall be repaired with mixture of cement, water, and sand. If crack affects structural integrity of the foundation, crack shall be injected with epoxy. Epoxy shall consist of a two-part gel material that contains 100% solids.⁶³

⁶³"Repairing Cracks in Concrete By Injecting Epoxy Resin" U.S. General Services Administration (2012) Concrete <http://www.gsa.gov/portal/content/111622>

- Active cracks shall be repaired by using expansion joints. Expansion joints shall be filled with a sealant.

Division 6: Wood and Plastics

- Board and Batten paneling shall be removed.
- Interior sheathing and lath shall be inspected for damage and wood rot.
- If sheathing is damaged or rotted, existing damaged sheathing shall be cut from stud to stud and replaced with new plywood or OSB sheathing.
- Insulation shall be installed after sheathing is repaired or replaced.

Installation Option #1: Open-Cell Polyurethane Spray Foam

Installation Option #2: Fiberglass Batts and Blankets

- Board and batten paneling shall be replaced.
 - *Option #1:* Board and batten paneling. Paneling shall reflect size, shape, and thickness of original wood paneling.
 - *Option #2:* 3/8" regular gypsum board. Standard gypsum board (48" wide x 8" long) shall be used on interior walls.
- Existing wood plank floors shall be removed.
- Sub-floor shall be repaired if damaged when removing wood planks floors or from previous damage.
- New floor shall be installed.
 - *Stable Floor Option #1 :* Porous Material. Includes: Topsoil, clay, sand, or road base mix.
 - *Stable Floor Option #2:* Impervious Material: Concrete, asphalt
 - *Stable Floor Option #3:* Wood

- *Stable Floor Option #4: Mats: Grid or solid rubber*
- *Special Event Venue Floor Option #1: Wood Plank Floors*
- *Special Event Venue Floor Option #2: Carpet*
- Stairs shall be inspected by structural engineer. Wood planks on stairs shall be removed and replaced with sub-floor planks then covered with wood planks boards.

Division 8: Doors and Windows

- Windows shall follow repair and replacement instructions outlined in “Exterior Scope of Work Division 8: Doors and Windows.”
- Doors leading to exterior of structure shall follow repair and replacement instructions outlined in “Exterior Scope of Work Division 8: Doors and Windows.”
- Interior doors shall be stripped of paint. Paint analysis shall be conducted to determine if lead paint is present. Removal process shall follow precautions in removal process. Doors shall be re-painted or stained per owner’s instructions.

Division 10: Specialities

- Fire protection system shall be installed according to *NFPA 13 Standard for the Inspection of Sprinkler System*. Smoke detectors shall be installed.
 - *Option #1: Beam-type smoke detector*
 - *Option #2: Wireless smoke detector devices*
 - *Option #3: Air sampling detectors*
- Sprinkler system shall be installed. System shall be installed prior to ceiling and wall restoration to conceal system.

- Sprinkler system shall follow NFPA 13: Standard for the Installation of Sprinkler System requirements.

Division 11: Equipment

- Security system shall be installed. System shall include electronic security system, card-key access, motion detection, closed circuit television, and exterior lighting.

Division 15: Mechanical

- Existing HVAC system shall be removed.
- Before new HVAC system is chosen criteria for new system shall be established.
- Requirements for new climate control system shall be prioritized based on adaptive reuse scenario.
- New HVAC system shall have minimal impact on existing stable.
- New HVAC system shall be installed prior to interior walls being installed. Type of HVAC system shall be chosen based on adaptive re-use scenario.
- Existing plumbing shall be inspected and condition assessed. New plumbing system shall be installed and brought up to building and local code by licensed plumber. New plumbing system shall support bathroom facilities, small kitchen, and accessible to exterior.
- Bathroom facilities shall be installed according to number of occupants and according to building code.

Division 16: Electrical

- Existing electrical system present in the structure shall be removed.
- New electrical system shall be installed and brought up to code by licensed electrician .

- Outlets shall be installed before wall coverings are installed. Placement of outlets will be determined based on adaptive re-use chosen.
- Specific style and type of lighting shall be chosen based on adaptive reuse scenario.

CHAPTER 6: FINANCIAL SYNTHESIS

6.1. Reuse #1: Special Event Venue

The first adaptive reuse scenario for the Colt estate stable is a Special Event Venue as outlined in 2.2.1. There is two design scenarios for the Special Event Venue; Scenario 1A and Scenario 1B. The intent of creating two possible scenarios provides two different design options along with calculating financial forecasts for both designs. The goal for both designs is to create a feasible space but without taking away from the stable's character defining features and historic charm.

Scenario 1A consists of using the stable's existing footprint. The basement of the stable will be utilized to incorporate a prep style kitchen that is accompanied with a dumb waiter. The dumb waiter would have access to a warming kitchen on the first floor for employees to be able to serve food to guests. This prep kitchen area is closed off from public access. The basement also consists of two office spaces which would be for an Executive Director as well as a Social/Corporate Event Manager. This space also includes seating arrangements for the convenience of clients. This area has been designed to accommodate storage space as well as two ADA compliant bathrooms accessible for guests. Finally the basement has a bridal suite for brides who are getting married at the stable and can be used by members of the wedding parties.

The first floor of the space has been designed to focus as an open floor plan concept. This allows flexibility for events in order to accommodate the appropriate furnishings but not limiting to the client. There is a space that a dance floor could be incorporate into without any structural beams in the way but is not a permanent built component of the floor. There is also ADA compliant bathrooms on this floor as well. On the elevation of the structure adjacent to the

water, a terrace has been installed as part of the structure's amenities. This deck on the terrace overlooks the ocean and is accessible to guests through a door as well as a staircase to ground level providing an additional form of Egress. By using the existing footprint of the stable, Scenario 1A would have approximately a 90 person occupancy rate.

Scenario 1B consists of using the stable's existing footprint along with an addition on the same elevation as the deck in Scenario 1A. By constructing an addition to the existing footprint, it would add overall square footage to the space allowing the occupancy level to increase making it more attractable to potential clients. The addition would mimic the existing interior and exterior construction methods and fabric to create a seamless look as if the addition has always been there. The basement of the stable will be utilized to incorporate a prep style kitchen that is accompanied with a dumb waiter. The dumb waiter would have access to a warming kitchen on the first floor for employees to be able to serve food to guests. This prep kitchen area is closed off from public access. The basement also consists of 2 office spaces which would be for an Executive Director as well as a Social/ Corporate Event Manager. This space also includes seating arrangements for the convenience of clients. This area has also been designed to accommodate storage space as well as two ADA compliant bathrooms accessible for guests. Finally, the basement has a bridal suite for brides who are getting married at the stable and can be used by members of the wedding parties.

The first floor of the space has been designed to focus on an open floor plan concept. This allows flexibility for events in order to accommodate the appropriate furnishings but not limiting to the client. There is a space that a dance floor could be incorporate into without any

structural beams in the way. There is also ADA compliant bathrooms on this floor as well. On the elevation of the structure adjacent to the water, a terrace has been installed as part of the structure's amenities. This deck on the terrace overlooks the ocean and is accessible to guests through a door. The new addition cuts the deck space in half as compared to Scenario 1A, however it makes the overall footprint shape more consistent and rectangular shape similar to the original footprint. With the addition and the existing footprint, Scenario 1B would have an approximate 130 person occupancy rate.

6.1.1. Costs (Exterior/Interior/Sites)

The cost estimates for a rehabilitation or adaptive reuse of a structure generally is referred to as a capital cost budget. According to Rypkema, in a typical feasibility study, the capital cost budgets includes acquisition costs, hard construction costs, soft construction costs, and contingency.⁶⁴ Because the project does not have any engineers, architects, developers, or the bank invested or assigned to the project, the costs in this project are formatted based on the hard costs of the rehabilitation process. The goal of cost estimates is to develop an order of magnitude, not establishing a definite project cost. The costs for the rehabilitation process was calculated based on the scope of work proposals outlined in Chapter 5.2 and 5.3. The rehabilitation costs estimates for this project were calculated by CPC assistant Jacob Wheeler using the program RS Means 2015 edition. RS Means is a construction estimation database that is used by industry professionals to determine cost of labor, materials, and overhead costs.⁶⁵

⁶⁴ Rypkema 81

⁶⁵Margaret Rouse, "RS Means," Last modified February 2008, <http://whatis.techtarget.com/definition/RS-Means>

Both scenario 1A and 1B have their own cost estimate calculated. This would calculate the difference in cost of having an addition added to the existing footprint. By comparing both the cost estimates and income forecast of scenario 1A and 1B, it allows to determine if by adding the addition, which in return expand occupancy rates, is beneficial in the income forecast. The cost estimates are divided into categories similar to the CSI MasterFormat used in both Chapter 4 existing conditions and Chapter 5 scope of work. Within each category the costs were estimated for both removing of damaged material, as well as, the cost of new construction and material. The total price for each installation of material or removal of material was calculated using five factors: quantity, unit, cost of material, cost of installation, and total unit cost.

6.1.1.1 Scenario 1A Cost Estimates

See Appendix A: Table 2.6: Scenario 1A Cost Estimate

6.1.1.2 Scenario 1A Cost Estimate Analysis

When calculating the cost estimates for a rehabilitation/ adaptive reuse project, it is important to have a Contingency cost as part of the overall cost estimate calculations. Contingency is the future event or circumstance that is possible but cannot be predicted with certainty.⁶⁶ For this project we used a 30% contingency rate. The closer the rehabilitation process is to actual construction, the lower the contingency rate is. Due to time constraints and the lack of accessibility to resources there are too many unknowns of this project without the analysis of the structure from professionals. This scenario is in the conceptual stages of the

⁶⁶ “Contingency” [dictionary.com](http://dictionary.reference.com/browse/contingency), Last modified 2015, <http://dictionary.reference.com/browse/contingency>

project which is the reasoning behind having a 30% contingency rate. In scenario 1A, the contingency rate is estimated at \$137,099.40 in addition to the subtotal of the hard costs of the project.

Based on the scope of work for the stable, RS Means calculates the hard costs of the rehabilitation process costing \$456,997.99. The estimation for the hard costs are derived based on an visual inspection of the structure. This is when the contingency factor comes into affect to the overall total. Again, this hard cost estimate is based strictly on the conceptual idea of the adaptive reuse. The RS Means calculates the cost per inhabitable square foot for scenario 1A as \$129.83. This applies to the first floor and basement level of the existing stable's footprint which results in scenario 1A having an area of 4,575 sq. ft. Based on the work outlined through the scope of work as well as in the descriptions throughout the cost estimates it is evident that the work applied to the structure is basic. There is not, for example, ornamental detailing being applied to the structure or speciality style flooring being installed which allows the overall cost to remain lower than if speciality materials or custom made elements were being made for the adaptive reuse. The conceptual grand total for scenario 1A is estimated as \$594,097.39.

6.1.1.3 Scenario 1B Cost Estimates

Cost estimates for Scenario 1B were calculated using the same methodology for the cost estimates for Scenario 1A. See Appendix A: Table 3.6: Scenario 1B.

6.1.1.4 Scenario 1B Cost Estimate Analysis:

Scenario 1B also had a 30% contingency rate incorporated as part of its final price using the same methodology as Scenario 1A. Because of the unknowns of the project and this scenario is calculated based on a conceptual idea results with a higher overall contingency number. Scenario 1B has a contingency rate estimated at \$146,012.43 in addition to the subtotal of the hard costs of the project

Based on the scope of work for the stable, RS Means calculates the hard costs of the rehabilitation process costing \$486,708.09. The estimation for the hard costs are derived based on an visual inspection of the structure. This is when the contingency factor comes into affect to the overall total. Again, this hard cost estimate is based strictly on the conceptual idea of the adaptive reuse. The RS Means calculates the cost per inhabitable square foot for scenario 1B as \$122.24. This applies to the first floor with new addition and basement level. Scenario 1B also has no ornamental or decorative work being installed during the adaptive reuse which keeps the overall hard labor costs lower. Scenario 1B has a total area of 5,176 sq. ft. The conceptual grand total cost for scenario 1B is estimated as \$632,720.52.

6.1.1.5 Conclusion:

The overall cost estimates are different from scenario 1A and scenario 1B because of one main factor: the addition. Both scenarios include the same characteristics and elements included in both along using the same materials and construction methods. By constructing an addition to the existing stable's footprint it not only extends the structure's overall area, it also increases both the hard costs as well as increasing the overall contingency cost. The addition in scenario 1B adds an additional 601 sq. ft. of space to the existing footprint. The addition on the structure requires

more materials and manual labor to the project which increases the overall price. The difference in the hard costs of the project is \$27,710.10. This also raises the number of unknowns in the project which increases the contingency rate. Scenario 1A and 1B both had a contingency rate of 30% to account for the unknown factors. The difference in the contingency cost between 1A and 1B is \$8,913.03. It is evident through the cost estimates of the project that by adding more square footage to the structure the overall costs will differ. The overall total cost difference is \$38,623.13. Although as it is previously mentioned, these numbers are not exact cost estimates but calculated in order to develop an order of magnitude of the cost estimates. Feasibility cannot be determined based on the rehabilitation costs alone. Because there is a dramatic difference in the cost estimates, it is essential to analyze the income forecast and compare the income forecast with the cost estimates in chapter 7 to determine which scenario would have a higher investment return based on the additional square footage.

6.1.2 Income Forecast

The income forecast for Scenario 1A and 1B revolved around renting out the stable for events throughout the course of the year. In order to get a basic understanding of the income forecast for the annual year, the income forecast was calculated using a facilities rental fee. A facilities rental fee provides a flat rental price for the space not based on an hourly rate. The prices varied depending on the day of the week as well as the month. The facilities fee rate was calculated based on an average fee of similar special event venues in the area to see if the Colt stable could be feasible based on their competitors pricing.

The year was divided into the off season months and peak months. Off season months consisting of January-May and November and December and the Peak Months consisting of May-October. The stable was closed during January and February as well as Monday and Tuesdays. During the Off season months there was a flat rate for every day of the week. For the Peak months the rate was increased for Friday, Saturday, and Sunday predicting these days would generate the most income based on popularity.

Income was calculated based on a gross scheduled income as well as an effective gross income. Each operating month was calculated using the facilities rate and making assumptions on how many days during that month would be booked with a special event.

As Appendix A Table 6.6: 1A Stabilized Operating Statement and Appendix A: Table 7.6: 1B Stabilized Operating Statement indicates that June, July, and August were the months that generated the most income revenue. To generate a higher income revenue during these months because they generate the highest income for the special event scenario, facility fees could be increased for popular weekends and holidays after the first year of operation, for example the fourth of July.

6.1.2.1. Gross Income, Total Expenses, Net Operating Income, Cash Flow

The gross scheduled income was calculated as if the stable was rented 100% of the full market rent. Each month was calculated for the gross scheduled income and each month got their own vacancy rate which was calculated to determine the effective gross income based on the vacancy rate in comparison to the gross scheduled income. Both scenario 1A and 1B had the

same gross scheduled incomes because for the purposes of this exercise were given the same rental rates as well as the same vacancy rates.

The expenses for the property were calculated using the expense numbers from the Fort Adams Trust for their special event venue space. The expenses for a special event venue included the fixed expenses which included property taxes, insurance, workers compensations, and lease payments. Because the stable is owned by the state, there is no property taxes on this property. Variable expenses such as utilities, advertising, accounting and accountable for supplies. Also apart of the variable expenses includes the administrative prices which included salaries for employees including an executive director, social/corporate event manager, as well as part time employees. The part time employees rate was calculated assuming an average of 25 hours a week at \$13.00 an hour. This number accounts for about three part time employees for the annual year. Part of the expenses was the reserves for the structure which is 2% of the structures estimated value. There is also a reserve for the repair and maintenance of the structure which is 5% of the overall rehabilitation cost for the structure.

The net operating income was calculated from subtracting the total expenses from the effective gross income. The cash flow is calculated by subtracting the debt service from the net operating income. For the purposes of this report, the debt services was not a factor. This was an exercise to asses the income revenue and the cost of the total expenses to see an estimation of the income revenue. (See Appendix A: Table)

6.1.2.4. Stabilized Year Operating Statement

The stabilized year operating statement is a basic working document about the potential annual income and expenses for the Colt estate stable as a special event venue. Because this project focuses around the event venue as a conceptual special event venue scenario the numbers and details incorporated are assumptions. Notes included in the table and in this report indicate where the assumptions came from to calculate the operating statement. The operating statement includes the gross scheduled income, vacancy rate, effective gross income, fixed expenses, variable expenses, reserves for replacement, net operating income, and the overall cash flow for the project. The annual cash flow for Scenario 1A was \$84,290.97 and the annual cash flow for scenario 1B is \$82,955.46. The difference in annual cash flow for Scenario 1A and 1B was based on the reserve for the repairs and maintenance. Because Scenario 1B includes the addition, this means the 5% of the rehabilitation costs would have been higher resulting in a lower cash flow. Both scenarios had an \$80,000+ cash flow revenue which indicate based on the stabilized operating statement that both of these scenarios would be feasible strictly based on the stabilized operating statement within the annual year. (Appendix A: 6.6: and Appendix A: 7.6)

6.2. Reuse #2: Horse Stable/ Training Facility

The second adaptive reuse scenario for the Colt estate stable is Horse Stable and Training Facility as outlined in 2.2.2. There is two design scenarios for a horse stable and training facility concept; Scenario 2A and Scenario 2B. The intent of creating two different scenarios provides two possible design options as well as accompanying that with financial forecasts but without taking away from the stable's character defining features and historic charm. The goal for both designs is to create a feasible space but without taking away from the stable's character defining features and historic charm.

Scenario 2A consists of using the stable's existing footprint. The stable would have 6 stalls on the first floor. The interior structure and features of the stables will be restored to look like the original stables did based on the historic fabric of the stable. The first floor of the stable will also consist of an office space for an office manager and a space that can hold meetings or birthday parties. This space is not large, but it is designed so that the office and the finished space is separated. This space designated for birthday parties and or meetings will allow kids to have food, and take part in other birthday traditions separated from the horses. The second floor will also hold to its historic character by maintaining its original function. The second floor consists of bathrooms as well as a two bedroom style space for an employee whom is managing the stable. The majority of the second floor is used as a hay loft for the horses.

Scenario 2B consists of using the stable's existing footprint along with an addition. By adding the stable, the stable would now have a total of 13 stables. The addition would eliminate one of the existing stables to create an access hallway for the horses. The new stables would mimic the features of the original stables to make the addition reflect the original stable On the

first floor of Scenario 2B would be space for two offices. These office spaces do not have a close "cubby-like" feel but would revolve around an open office approach. The second floor will also hold to its historic character by maintaining its original function. The second floor consists of bathrooms as well as two bedroom style spaces for an employee whom is managing the stable. The majority of the second floor is used as a hay loft for the horses. Scenario 2B would utilize the basement space as part of it's design. Where the new addition structure stands would consist of crawl space on the basement level. The basement utilized as part of the design would use the historic footprint of the structure. This area would have a finished area that would be used for birthday parties. This area also has bathrooms as part of its design.

6.2.1 Costs (Exterior/ Interior/ Site)

The cost estimates for scenario 2A and 2B were also calculated using Rypkema's methodology used in the cost estimates for scenario 1A and 1B. The goal of cost estimates for a horse stable and training facility is to develop an order of magnitude, not establishing a definite project cost. The costs for the rehabilitation process was calculated based on the scope of work proposals outlined in Chapter 5.2 and 5.3.

Both scenario 2A and 2B have their own cost estimate calculated. This would calculate the difference in cost of having an addition added to the existing footprint which would create more additional horse stalls. By comparing both the cost estimates and income forecast of scenario 2A and 2B, it allows to determine if by adding the addition, which in return expand the number of stalls, is beneficial in the income forecast. The cost estimates are divided into categories similar to the CSI MasterFormat used in both Chapter 4 existing conditions and

Chapter 5 scope of work. Within each category the costs were estimated for both removing of damaged material, as well as, the cost of new construction and material. The total price for each installation of material or removal of material was calculated using five factors: quantity, unit, cost of material, cost of installation, and total unit cost.

6.2.1.1. Scenario 2A Cost Estimate

See Appendix A Table 4.6: Scenario 2A Cost Estimate

6.2.1.2 Scenario 2A Cost Estimate Analysis

As part of the cost estimates for scenario 2A there was a contingency rate incorporated as part of the overall cost calculations as part of the unknowns of the project due to time constraints and the lack of accessibility to resources. This scenario is in the conceptual stages of the project which is the reasoning behind having a 30% contingency rate. In scenario 2A, the contingency rate is estimated at \$59,533.17 in addition to the subtotal of the hard costs of the project.

Based on the scope of work for the stable, RS Means calculates the hard costs of the rehabilitation process costing \$198,433.89. The cost estimates accounted for 6 stalls in the interior of the stable. The estimation for the hard costs are derived based on an visual inspection of the structure. This is when the contingency factor comes into affect to the overall total. The hard cost estimate for scenario 2A is based strictly on the conceptual idea of the adaptive reuse. Part of the cost estimates also includes fixing the cupola and the existing weathervane. The RS Means calculates the cost per inhabitable square foot for scenario 2A as \$112.75. This applies to the first floor existing stable's footprint which results in scenario 2A having an area of 2,288 sq. ft. Based on the work outlined through the scope of work as well as in the descriptions

throughout the cost estimates it is evident that the work applied to the structure is basic. The conceptual grand total for scenario 2A is estimated as \$257,977.06.

6.2.1.3 Scenario 2B Cost Estimate

Cost estimates for Scenario 1B were calculated using the same methodology for the cost estimates for Scenario 1A. See Appendix A: Table 5.6: Scenario 2B Cost Estimate.

6.2.1.4 Scenario 2B Cost Estimate Analysis

Scenario 2B also had a 30% contingency rate incorporated as part of it's final price using the same methodology as Scenario 2A. Because of the unknowns of the project and this scenario is calculated based on a conceptual idea results with a higher overall contingency number. Scenario 2B has a contingency rate estimated at \$70,391.13 in addition to the subtotal of the hard costs of the project

Based on the scope of work for the stable, RS Means calculates the hard costs of the rehabilitation process costing \$234,637.09. The cost estimates for scenario 2B account for an addition on the existing stable which would increase the overall number of stables to include 13 stables in total. The estimation for the hard costs are derived based on an visual inspection of the structure. This is when the contingency factor comes into affect to the overall total. Again, this hard cost estimate is based strictly on the conceptual idea of the adaptive reuse. The RS Means calculates the cost per inhabitable square foot for scenario 2B as \$82.44. This applies to the first floor with new addition and including the finished basement level which is only part of the existing footprint. Scenario 2B also has no ornamental or decorative work being installed during

the adaptive reuse which keeps the overall hard labor costs lower. Scenario 2B has a total area of 3,700 sq. ft. The conceptual grand total cost for scenario 2B is estimated as \$305,028.22.

6.2.1.5 Conclusion

The overall cost estimates are different from scenario 2A and scenario 2B because of the addition creating 7 new stalls to the existing footprint. Both scenarios include the same characteristics and elements included in both along using the same materials and construction methods based on the original configuration of the stable. By constructing an addition to the existing stable's footprint it not only extends the structure's overall area, it also increases both the hard. In return this also increases the overall contingency cost. The addition in scenario 2B adds an additional 1,412 sq. ft. of space to the existing footprint. The addition on the structure requires more materials and manual labor to the project which increases the overall price. The difference in the hard costs of the project is \$36, 193.20. This also raises the number of unknowns in the project which increases the contingency rate. Scenario 2A and 2B both had a contingency rate of 30% to account for the unknown factors. The difference in the contingency cost between 2A and 2B is \$10,857.96. It is evident through the cost estimates of the project that by adding more square footage to the structure the overall costs will differ. The overall total cost difference is \$47,051.16. Although as it is previously mentioned, these numbers are not exact cost estimates but calculated in order to develop an order of magnitude of the cost estimates. Feasibility cannot be determined based on the rehabilitation costs alone. Because there is a dramatic difference in the cost estimates, it is essential to analyze the income forecast and

compare the income forecast with the cost estimates in chapter 7 to determine which scenario would have a higher investment return based on the additional square footage.

6.2.2 Income Forecast

The income forecast for scenario 2A and 2B revolved around boarding, lessons, summer camps, and birthday parties. The year is divided into two parts, summer and winter. Summer consists of May to October and winter consists of November to April. Each scenario had the same rates for each income revenue however, the increase in the number of stalls changed the income revenue generated for scenario 2A and 2B. Boarding was generated based on two boarding concepts: basic and training. Basic board include feed, board, and grooming and training board included the same components of the basic board plus training lessons. Lessons are generated based on the cost of private lessons and group lessons. Income for summer camps is generated at a weekly rate during July to August. Daily rates are also incorporated as part of the summer camp income. Finally birthday parties have a flat rate of \$171.00 for 1-10 kids and an additional cost for each kid that extends the ten child limit.

The addition that is part of Scenario 2B's design allows to generate more income in every category because it provides more horse that are available for use. Income was calculated based on a gross scheduled income as well as an effective gross income. Each operating month was calculated using the facilities rate and making assumptions on how many days during that month would be booked with a special event.

As Appendix A Table 8.6 and Table 9.6 indicates that for both scenarios boarding and lessons will generate the largest portion of the income. Because of the increase of stables,

scenario 2B allows to increase the number of available stalls while maintaining open stalls and horses for lessons.

6.2.2.1 Gross Income, Total Expenses. Net Operating Income, Cash Flow

The gross scheduled income was calculated as if the stable was rented 100% of the full market rent. Each source of income was calculated for the gross scheduled income and each source got their own vacancy rate which was calculated to determine the effective gross income based on the vacancy rate in comparison to the gross scheduled income. The gross scheduled income was different between scenario 2A and 2B because the market rental is increased with an overall increase in stalls. For the purposes of this exercise each income source was given the same rental rates as well as the same vacancy rates.

The expenses for the property were calculated using Penn State's Extension Agricultural Alternatives pricing from their College of Agricultural Sciences. The expenses for a horse stable included the fixed expenses which included property taxes, insurance, workers compensations, and lease payments. Because the stable is owned by the state, there is no property taxes on this property. Variable expenses such as utilities, supplies for the horses calculated individually per horse for the monthly cost and then by the total number of horses for the annual cost. Also apart of the variable expenses includes the administrative prices which included salaries for employees including an Director, office manager, and horse trainers. This number accounts for about two additional trainers in addition to the director for the annual year. Part of the expenses was the reserves for the structure which is 2% of the structures estimated value. There is also a reserve

for the repair and maintenance of the structure which is 5% of the overall rehabilitation cost for the structure.

The net operating income was calculated from subtracting the total expenses from the effective gross income. The cash flow is calculated by subtracting the debt service from the net operating income. For the purposes of this report, the debt services was not a factor. This was an exercise to assess the income revenue and the cost of the total expenses to see an estimation of the income revenue. (See Appendix A Table 8.6 and Appendix A Table 9.6)

6.2.2.4 Stabilized Year Operating Statement

The stabilized year operating statement is a basic working document about the potential annual income and expenses for the Colt estate stable as a horse stable and training facility. Because this project focuses around the stable as a conceptual horse stable scenario the numbers and details incorporated are assumptions. Notes included in the table and in this report indicate where the assumptions came from to calculate the operating statement. The operating statement includes the gross scheduled income, vacancy rate, effective gross income, fixed expenses, variable expenses, reserves for replacement, net operating income, and the overall cash flow for the project. The annual cash flow for Scenario 2A was -\$19,081.81 and the annual cash flow for scenario 2B is \$98,608.94. When analyzing scenario 2A to examine why there is a negative cash flow for this scenario, it indicates that the expenses to run and operate the stable cost more than what the income is generating. The income was generated based on an average of other stables in the area. To have a positive cash flow, scenario 2A would have to increase its income rates to generate cash flow due to the high cost of expenses. Scenario 2B doubles the

overall size of the stable which allows to generate more income to account for the overall expenses. Based on the standardized operating statement, scenario 2A is not a feasible option based on the income generated compared to the expenses. Scenario 2B is a feasible option for the stable with a \$70,000+ cash flow.

CHAPTER 7: CONCLUSION

7.1. Recommendations for Future Space

In In order to determine which adaptive reuse scenario is considered feasible it is important to assess the factors that have been evaluated within this report including the assumptions, limitations, and financial synthesis. The term feasible will conclude that the scenario has a “reasonable likelihood of satisfying explicit objectives when a selected course of action is tested to fit to a context of specific constraints and limited resources.”⁶⁷ The final recommendation for this project is established based on the contingent feasibility of the structure meaning that the stable plan is considered feasible if...

Based on the collected data, the final adaptive reuse scenario that is believed to be the most feasible solution for the Colt estate stable is adaptively reusing it scenario 2B, to a horse stable and training facility. This recommendation was concluded based on both the assumption, limitations and overall financial synthesis. When examining the assumptions and limitations on the project, the stable is feasible based on the zoning ordinances articulated by the town of Bristol. This scenario would disrupt the existing landscape the least by incorporating the landscape as part of the overall design for the horses. This scenario would disrupt the surrounding residents the least by having specific operating hours and not a lot of traffic noise. By rehabilitating the stable back to horse stable, it allows the overall aesthetics of the stable to remain the same except for upgrading the components to take of a horse to modern standards.

⁶⁷ Donovan Rypkema, Feasibility Assessment Manuel for Reusing Historic Buildings (Washington D.C., National Trust for Historic Preservation, 2007),93.

Even with the addition to the structure, the interior will reflect the exact construction and look of the structure which although would change the footprint of the structure, does not take away from the character-defining features of the structure but incorporating them as part of the addition's design.

Determining feasibility based on the financial synthesis of each scenario was a difficult process. When examining the financials for each scenario, the special event venue did generate an overall higher cash flow revenue for both scenarios. But, by adding the addition to the structure, it generates enough income to have a positive cash flow income despite the high expense cost. A horse stable also has the ability to generate more sources of overall income which in return, would increase the overall cash flow for this scenario.

All in all, the feasibility of the Colt estate stable was not determined strictly on the financial synthesis but looking at all the components collectively. If the stable were adaptively reused to become a horse stable and training facility it would ensure that the historical integrity of the structure would remain present and benefit the community. The stable would also allow the landscape to reflect the features and components that were part of its original function, as well as, generating a positive cash flow to create a successful business endeavor and boost the local economy.

BIBLIOGRAPHY

Bristol Planning Board and Town Council. "Comprehensive Plan." State of Rhode Island. Providence, State of Rhode Island, 2009.

Bristol Planning Board. "Town of Bristol Rhode Island Subdivision and Development Review Regulations." State of Rhode Island, 2009.

Dimitri, Carolyn and Anne Effland, and Neilson Conklin. "The 20th Century Transformation of U.S. Agriculture and Farm Policy." *United States Department of Agriculture. Economic Information Bulletin* Number 3. June 2005.

Gaudette, Paul. (2007) *Preservation of Historic Concrete*. Accessed March 23, 2015.
<http://www.nps.gov/tps/how-to-preserve/briefs/15-concrete.htm>

Hawkins, Dominique M. *Historic Structures Reports & Preservation Plans, A Preparation Guide*. New Jersey Historic Preservation Office. 2007

Mack, Robert C. (1998, October) *Repointing Mortar Joints in Historic Masonry Building*. Accessed April 2, 2015)
<http://www.nps.gov/tps/how-to-preserve/briefs/2-repoint-mortar-joints.htm>

Meyer, Carrie A. *Days on the Family Farm: From the Golden Age Through the Great Depression*. Minneapolis, University of Minnesota Press. 2007

National Register of Historic Places. Poppasquash Farm Historic District. Bristol. Bristol County, Rhode Island. National Register #80000075

National Park Service. "Preservation Brief 20: The Preservation of Historic Barns" Accessed February 23, 2015. <http://www.nps.gov/tps/how-to-preserve/briefs/20-barns.htm>.

Order of the Town Council. "Town of Bristol Zoning Ordinances Amendments." State of Rhode Island, Bristol, 1998.

Park, Sharon. C. (1991, October) *Heating, Ventilating, and Cooling Historic Buildings-Problems and Recommended Approaches*. Accessed February 20, 2015.
<http://www.nps.gov/tps/how-to-preserve/briefs/24-heat-vent-cool.htm#design>.

Percheron Horse Association of America. "Percheron Disposition and Characteristics." Accessed April 18, 2015. <http://www.percheronhorse.org/percheron/default.html>

Realtor . com. "Bristol Lifestyle and Demographics" Accessed March 18, 2015. http://www.realtor.com/local/Bristol_RI/lifestyle.

Rhode Island Historical Preservation Commission. *Historic and Architectural Resources of Bristol, Rhode Island*. State Historic Preservation Office. Rhode Island, 1990.

RI Historical Preservation commission. Rhode Island: State-Owned Historic Properties. Accessed April 27, 2015. http://www.preservation.ri.gov/pdfs_zips_downloads/survey_pdfs/state_owned.pdf

Rypkema, Donavon. Feasibility Assessment Manuel for Reusing Historic Buildings. Washington D.C., National Trust for Historic Preservation, 2007.

State of Rhode Island Division of Parks and Recreation. "John H Chafee Nature Preserve." Accessed May 1, 2015. <http://www.riparks.com/History/HistoryJohnHChafee.html>

State of Rhode Island Historic Preservation and Heritage Commission. "Grants: State Preservation Grants." Accessed May 2, 2015) <http://www.preservation.ri.gov/grants/spg.php>

Swanke Hayden Connell Architects. (2000) *Historic Preservation: Project Planning and Estimating*. Kingston, MA: R.S. Means Company, Inc. Construction Publisher & Consultants.

The 1772 Foundation: Preserving American Historical Treasures. "Annual Report 2013" Accessed May 2, 2015. http://www.1772foundation.org/wp-content/uploads/2014/2013_Annual_Report.pdf

APPENDIX A: COST ESTIMATES

Table 2.6: Scenario 1A Cost Estimate

Cost Estate Horse Stable Rehabilitation Cost Estimate: Banquet Venue Program (4/13/15)						
SCENARIO 1A		Note: All building is insulated, including basement				
	Qty	Unit	Material O+P	Installation O+P	Total Unit Cost	Total Price
Foundation						
Foundation Patching (Cement Stucco, 1" thick, 3 Coats)	20	S.Y	\$ 0.26	\$ 4.36	\$ 4.62	\$ 92.40
Paints & Coatings (2 Coats)	300	S.F	\$ 0.22	\$ 1.28	\$ 1.50	\$ 450.00
Entry Level Floor Structure (Replace members)	1	Lump	\$ 800.00	\$ 1,500.00	\$ 2,000.00	\$ 2,000.00
Properly repair and fill in cracks in basement slab	1		\$ 200.00	\$ 300.00	\$ 500.00	\$ 500.00
Exterior Walls						
Clapboard and Sheathing Removal and Disposal	1	Lump			\$ 2,500.00	\$ 2,500.00
Install New Sheathing (Plywood)	4,120	S.F	\$ 0.79	\$ 1.24	\$ 2.03	\$ 8,363.60
Weather Barrier	4,120	S.F	\$ 0.05	\$ 0.20	\$ 0.26	\$ 1,071.20
Install NewHardieboard Lap Siding (5" exposure)	4,120	S.F	\$ 4.43	\$ 8.05	\$ 12.48	\$ 51,417.60
Replace Large Windows(6-over-6 wood frame)	11	EA	\$ 254.31	\$ 331.32	\$ 585.63	\$ 6,441.93
Replace Small Windows (Hopper/Awning: wood with standard glass)	21	EA	\$ 237.70	\$ 166.32	\$ 404.02	\$ 8,484.42
Garage Door Replacement (Basement)	1	EA	\$ 800.00	\$ 250.00	\$ 1,050.00	\$ 1,050.00
Remove Plywood Covering Door and Window Openings	1	Lump			\$ 200.00	\$ 200.00
Sliding Barn Door Replaced with Barn Pros T&G Barn Door w. Window	1	Lump	\$ 1,800.00	\$ 400.00	\$ 2,200.00	\$ 2,200.00
Exterior Man Doors (Replaced with Steves & Sons 3 Lite Stained Mahogany Entry Door)	1	EA	\$ 800.00	\$ 250.00	\$ 1,050.00	\$ 1,050.00
Close and Seal Door at Back of Barn	1	EA	\$ 150.00	\$ 75.00	\$ 225.00	\$ 225.00
Interior Walls						
Remove Board and Batten Paneling	1	Lump			\$ 700.00	\$ 700.00
Remove Interior Sheathing and lath	1	Lump			\$ 700.00	\$ 700.00
Install Insulation (High Density Spray Foam R-6.5 per inch): All Vertical Exterior Walls and Foundation Walls	5,300	S.F	\$ 0.75	\$ 1.35	\$ 2.10	\$ 11,130.00
Install wood board and batten similar to existing on Ground Floor and Furred out on Basement Walls	5,300	S.F	\$ 2.21	\$ 3.70	\$ 5.91	\$ 31,323.00
Interior Paint	5,300	S.F	\$ 0.14	\$ 0.96	\$ 1.10	\$ 5,830.00
Stall Partitions (Removed)	6	EA	\$ 50.00	\$ 50.00	\$ 100.00	\$ 600.00
New Constructed Kitchen Walls and Office Space and Basement Bathrooms (2x4 wood stud with 5/8" GWB Finish)	1,800	S.F	\$ 1.30	\$ 4.45	\$ 5.75	\$ 10,350.00
Interior Doors	12	EA	\$ 70.00	\$ 50.00	\$ 120.00	\$ 1,440.00

Interior Floors/Ceilings						
Install Insulation (High Density Spray Foam R-6.5 per inch): (In entry level floor)	2,288	S.F	\$ 0.75	\$ 1.35	\$ 2.10	\$ 4,804.80
Remove First Floor Ceiling (Exposing Hay loft above)	1	Lump			\$ 700.00	\$ 700.00
Underside of Roof: Ceiling Finish: Rough Sawn Boards	3,472	S.F	\$ 2.83	\$ 2.90	\$ 5.73	\$ 19,894.56
Interior Paint on ceiling	4,200	S.F	\$ 0.14	\$ 0.96	\$ 1.10	\$ 4,620.00
Remove First floor Flooring	1	Lump			\$ 700.00	\$ 700.00
First Floor flooring: 3/4" Plywood	2,288	S.F	\$ 1.54	\$ 1.14	\$ 2.68	\$ 6,131.84
First Floor Flooring: Wood Planks (Sanded and Finished)	2,288	S.F	\$ 4.41	\$ 6.36	\$ 11.95	\$ 27,341.60
Stair Cases (Repair and Replace Structure and Riser/Treads)	1	Flight	\$ 1,200.00	\$ 464.70	\$ 1,664.70	\$ 1,664.70
First Floor Flooring: Entry Way and Kitchen Area (Vinyl tile, 3/32")	400	S.F	\$ 3.87	\$ 1.29	\$ 5.16	\$ 2,064.00
GWB Ceiling for Mudroom/Storage and Basement Bathroom	400	S.F	\$ 0.46	\$ 2.10	\$ 2.56	\$ 1,024.00
Basement Finished Flooring Includes leveling from slab: (Vinyl tile, 3/32")	2288	S.F	\$ 4.05	\$ 1.40	\$ 5.45	\$ 12,469.60
Roof						
Gutter (Aluminum Painted) 5"	62	L.F	\$ 2.88	\$ 6.78	\$ 9.66	\$ 598.92
SIPS System R-40 (Insulated Panels with sheathing built on)	3,472	S.F			\$ 5.40	\$ 18,748.80
Shingles , and Flashing, Ice and Water Shield	3,472	S.F	\$ 1.04	\$ 1.53	\$ 2.57	\$ 8,923.04
Removal of Roof Shingles	1	Lump			\$ 800.00	\$ 800.00
Services						
Plumbing: New Piping where needed (Inspected and updated per code)	1	Lump	\$ 1,500.00	\$ 900.00	\$ 2,400.00	\$ 2,400.00
Toilet	2	EA	\$ 80.00	\$ 40.00	\$ 120.00	\$ 240.00
Sinks (Bath)	2	EA	\$ 150.00	\$ 40.00	\$ 190.00	\$ 380.00
Fire Protection (complete sprinkler and alarm system)	4,576	S.F	\$ 5.39	\$ 4.04	\$ 9.43	\$ 43,151.68
Small heating System: hydronic with electric boiler	4,576	S.F	\$ 7.22	\$ 9.85	\$ 17.07	\$ 78,112.32
Removal of Existing Electrical System	1	Lump			\$ 600.00	\$ 600.00
Electrical system installation: includes new wiring for whole building. In wall wiring and 4 receptacles/1000sqft	4,576	S.F	\$ 0.44	\$ 1.71	\$ 2.15	\$ 9,838.40
100 Amp with Circuit Breaker Electrical Distribution	1	EA	\$ 1,579.73	\$ 1,504.50	\$ 3,084.23	\$ 3,084.23
Lighting: Fixtures (Incandescent @ 12 fixtures per 1000SF)	4576	SF	\$ 1.97	\$ 3.12	\$ 5.09	\$ 23,291.84
Communication and Alarm System	1	EA	\$ 4,012.00	\$ 5,692.00	\$ 9,704.03	\$ 9,704.03
Miscellaneous						
Chimney Missing Units + Mortar	12	S.F	\$ 4.72	\$ 15.32	\$ 20.04	\$ 240.48
Cupola	1	Lump			\$ 500.00	\$ 500.00
Weathervane	1	Lump			\$ 350.00	\$ 350.00
ADA Lift from Basement to Entry Level	1	EA			\$ 10,000.00	\$ 10,000.00
Excessive plant Growth Removal	1	Lump			\$ 600.00	\$ 600.00
Dumbwaiter	1	Lump			\$ 3,900.00	\$ 3,900.00
Construct Wood Deck (Framing, footings and Finishes)	600	S.F	\$ 8.00	\$ 12.00	\$ 20.00	\$ 12,000.00
Subtotal:						\$ 456,997.99
Indirect Costs						
Contingency 30%						\$ 137,099.40
Grand total						\$ 594,097.39
Cost Per Inhabitable Square Foot (first floor and basement 4,576sqft)						\$ 129.83

Table 3.6: Scenario 1B Cost Estimate

Cost Estate Horse Stable Rehabilitation Cost Estimate: Banquet Venue with Addition (4/13/15)						
SCENARIO 1B		Note: All building is insulated, including basement where Finished Rooms Are				
	Qty	Unit	Material O+P	Installation O+P	Total Unit Cost	Total Price
Foundation						
Foundation Patching (Cement Stucco, 1" thick, 3 Coats)	20	S.Y	\$ 0.26	\$ 4.36	\$ 4.62	\$ 92.40
Paints & Coatings (2 Coats)	300	S.F	\$ 0.22	\$ 1.28	\$ 1.50	\$ 450.00
Entry Level Floor Structure (Replace members)	1	Lump	\$ 800.00	\$ 1,500.00	\$ 2,000.00	\$ 2,000.00
Properly repair and fill in cracks in basement slab	1		\$ 200.00	\$ 300.00	\$ 500.00	\$ 500.00
Construct Footings, foundation walls and Slab for Addition	600	S.F	\$ 3.15	\$ 3.78	\$ 6.93	\$ 4,158.00
Exterior Walls						
Clapboard and Sheathing Removal and Disposal	1	Lump			\$ 2,500.00	\$ 2,500.00
Install New Sheathing (Plywood)	4,120	S.F	\$ 0.79	\$ 1.24	\$ 2.03	\$ 8,363.60
Weather Barrier	4,500	S.F	\$ 0.05	\$ 0.20	\$ 0.26	\$ 1,170.00
Install NewHardieboard Lap Siding (5" exposure)	4,500	S.F	\$ 4.43	\$ 8.05	\$ 12.48	\$ 56,160.00
Replace Large Windows(6-over-6 wood frame)	11	EA	\$ 254.31	\$ 331.32	\$ 585.63	\$ 6,441.93
Replace Small Windows (Hopper/Awning: wood with standard glass)	21	EA	\$ 237.70	\$ 166.32	\$ 404.02	\$ 8,484.42
Garage Door Replacement (Basement)	1	EA	\$ 800.00	\$ 250.00	\$ 1,050.00	\$ 1,050.00
Remove Plywood Covering Door and Window Openings	1	Lump			\$ 200.00	\$ 200.00
Sliding Barn Door Replaced with Barn Pros T&G Barn Door w. Window	1	Lump	\$ 1,800.00	\$ 400.00	\$ 2,200.00	\$ 2,200.00
Exterior Man Doors (Replaced with Steves & Sons 3 Lite Stained Mahogany Entry Door)	3	EA	\$ 800.00	\$ 250.00	\$ 1,050.00	\$ 3,150.00
Close and Seal Door at Back of Barn	1	EA	\$ 150.00	\$ 75.00	\$ 225.00	\$ 225.00
Construct New Exterior Walls for Addition (2x6 Stud Construction: Includes insulation)	750	S.F	\$ 2.57	\$ 11.16	\$ 13.73	\$ 10,297.50
Interior Walls						
Remove Board and Batten Paneling	1	Lump			\$ 700.00	\$ 700.00
Remove Interior Sheathing and lath	1	Lump			\$ 700.00	\$ 700.00
Install Insulation (High Density Spray Foam R-6.5 per inch): All Vertical Exterior Walls and Foundation Walls	5,300	S.F	\$ 0.75	\$ 1.35	\$ 2.10	\$ 11,130.00
Install wood board and batten similar to existing on Ground Floor and Furred out on Basement Walls	5,300	S.F	\$ 2.21	\$ 3.70	\$ 5.91	\$ 31,323.00
Interior Paint	5,700	S.F	\$ 0.14	\$ 0.96	\$ 1.10	\$ 6,270.00
Stall Partitions (Removed)	6	EA	\$ 50.00	\$ 50.00	\$ 100.00	\$ 600.00
New Constructed Kitchen Walls and Office Space and Basement and first floor Bathrooms (2x4 wood stud with 5/8" GWB Finish)	2,100	S.F	\$ 1.30	\$ 4.45	\$ 5.75	\$ 12,075.00
Interior Doors	12	EA	\$ 70.00	\$ 50.00	\$ 120.00	\$ 1,440.00

Interior Floors/Ceilings

Install Insulation (High Density Spray Foam R-6.5 per inch): (In entry level floor)	2,288	S.F	\$ 0.75	\$ 1.35	\$ 2.10	\$ 4,804.80
Remove First Floor Ceiling (Exposing Hay loft above)	1	Lump			\$ 700.00	\$ 700.00
Underside of Roof: Ceiling Finish: Rough Sawn Boards	3,472	S.F	\$ 2.83	\$ 2.90	\$ 5.73	\$ 19,894.56
Interior Paint on ceiling	4,200	S.F	\$ 0.14	\$ 0.96	\$ 1.10	\$ 4,620.00
Remove First floor Flooring	1	Lump			\$ 700.00	\$ 700.00
First Floor flooring: 3/4" Plywood	2,288	S.F	\$ 1.54	\$ 1.14	\$ 2.68	\$ 6,131.84
First Floor Flooring: Wood Planks (Sanded and Finished)	2,288	S.F	\$ 4.41	\$ 6.36	\$ 11.95	\$ 27,341.60
Stair Cases (Repair and Replace Structure and Riser/Treads)	1	Flight	\$ 1,200.00	\$ 464.70	\$ 1,664.70	\$ 1,664.70
First Floor Flooring: Entry Way and Kitchen Area (Vinyl tile, 3/32")	400	S.F	\$ 3.87	\$ 1.29	\$ 5.16	\$ 2,064.00
GWB Ceiling for Mudroom/Storage and Basement Bathroom	400	S.F	\$ 0.46	\$ 2.10	\$ 2.56	\$ 1,024.00
Basement Finished Flooring Includes leveling from slab: (Vinyl tile, 3/32")	2288	S.F	\$ 4.05	\$ 1.40	\$ 5.45	\$ 12,469.60

Roof

Gutter (Aluminum Painted) 5"	62	L.F	\$ 2.88	\$ 6.78	\$ 9.66	\$ 598.92
SIPS System R-40 (Insulated Panels with sheathing built on)	3,472	S.F			\$ 5.40	\$ 18,748.80
Shingles , and Flashing, Ice and Water Shield	3,472	S.F	\$ 1.04	\$ 1.53	\$ 2.57	\$ 8,923.04
Removal of Roof Shingles	1	Lump			\$ 800.00	\$ 800.00
Construct Shed Roof Over New Addition (2x wood framing and 1/2" Sheathing and Insulation)	660	S.F	\$ 2.05	\$ 2.69	\$ 4.74	\$ 3,128.40

Services

Plumbing: New Piping where needed (Inspected and updated per code)	1	Lump	\$ 1,500.00	\$ 900.00	\$ 2,400.00	\$ 2,400.00
Toilet	4	EA	\$ 80.00	\$ 40.00	\$ 120.00	\$ 480.00
Sinks (Bath)	4	EA	\$ 150.00	\$ 40.00	\$ 190.00	\$ 760.00
Fire Protection (complete sprinkler and alarm system)	4,576	S.F	\$ 5.39	\$ 4.04	\$ 9.43	\$ 43,151.68
Small heating System: hydronic with electric boiler	4,576	S.F	\$ 7.22	\$ 9.85	\$ 17.07	\$ 78,112.32
Removal of Existing Electrical System	1	Lump			\$ 600.00	\$ 600.00
Electrical system installation: includes new wiring for whole building. In wall wiring and 4 receptacles/1000sqft	4,576	S.F	\$ 0.44	\$ 1.71	\$ 2.15	\$ 9,838.40
100 Amp with Circuit Breaker Electrical Distribution	1	EA	\$ 1,579.73	\$ 1,504.50	\$ 3,084.23	\$ 3,084.23
Lighting: Fixtures (Incandescent @ 12 fixtures per 1000SF)	4576	SF	\$ 1.97	\$ 3.12	\$ 5.09	\$ 23,291.84
Communication and Alarm System	1	EA	\$ 4,012.00	\$ 5,692.00	\$ 9,704.03	\$ 9,704.03

Miscellaneous

Chimney Missing Units + Mortar	12	S.F	\$ 4.72	\$ 15.32	\$ 20.04	\$ 240.48
Cupola	1	Lump			\$ 500.00	\$ 500.00
Weathervane	1	Lump			\$ 350.00	\$ 350.00
ADA Lift from Basement to Entry Level	1	EA			\$ 10,000.00	\$ 10,000.00
Excessive plant Growth Removal	1	Lump			\$ 600.00	\$ 600.00
Dumbwaiter	1	Lump			\$ 3,900.00	\$ 3,900.00
Construct Wood Deck (Framing, footings and Finishes)	600	S.F	\$ 8.00	\$ 12.00	\$ 20.00	\$ 12,000.00
Roll Out Awning to cover Deck	1	Lump	\$ 1,800.00	\$ 600.00	\$ 2,400.00	\$ 2,400.00

Subtotal: **\$ 486,708.09**

Indirect Costs

Contingency 30% **\$ 146,012.43**

Grand total **\$ 632,720.52**

Cost Per Inhabitable Square Foot
(first floor and basement 5,176sqft) \$ 122.24

Table 4.6: Scenario 2A Cost Estimates

SCENARIO 2A		Cost Estate Horse Stable Rehabilitation Cost Estimate: Horse Stable Program (4/13/15)				
		Note: Insulated Space is only first floor. Ceiling and Walls Insulated				
	Qty	Unit	Material O+P	Installation O+P	Total Unit Cost	Total Price
Foundation						
Foundation Patching (Cement Stucco, 1" thick, 3 Coats)	20	S.Y	\$ 0.26	\$ 4.36	\$ 4.62	\$ 92.40
Paints & Coatings (2 Coats)	300	S.F	\$ 0.22	\$ 1.28	\$ 1.50	\$ 450.00
Entry Level Floor Structure (Replace members)	1	Lump	\$ 800.00	\$ 1,200.00	\$ 2,000.00	\$ 2,000.00
Properly repair and fill in cracks in basement slab	1		\$ 200.00	\$ 300.00	\$ 500.00	\$ 500.00
Exterior Walls						
Clapboard and Sheathing Removal and Disposal	1	Lump			\$ 2,500.00	\$ 2,500.00
Install New Sheathing (Plywood)	4,120	S.F	\$ 0.79	\$ 1.24	\$ 2.03	\$ 8,363.60
Weather Barrier	4120	S.F	\$ 0.05	\$ 0.20	\$ 0.26	\$ 1,071.20
Install New Clapboard 1/2"x8" (Red Cedar Wood)	4,120	S.F	\$ 4.57	\$ 1.78	\$ 6.35	\$ 26,162.00
Clapboard Paint/Stain/Seal	4,120	S.F	\$ 0.24	\$ 1.51	\$ 1.75	\$ 7,210.00
Windows (All Repaired and Repainted)	32	EA	\$ 150.00	\$ 200.00	\$ 350.00	\$ 11,200.00
Garage Door Replacement (Basement)	1	EA	\$ 800.00	\$ 250.00	\$ 1,050.00	\$ 1,050.00
Remove Plywood Covering Door and Window Openings	1	Lump			\$ 200.00	\$ 200.00
Sliding Barn Door (Repaired and Repainted)	1	Lump	\$ 250.00	\$ 250.00	\$ 500.00	\$ 500.00
Exterior Man Doors (Replaced with Steves & Sons 3 Lite Stained Mahogany Entry Door)	1	EA	\$ 800.00	\$ 250.00	\$ 1,050.00	\$ 1,050.00
Repair Door at Back of Barn	1	EA	\$ 150.00	\$ 75.00	\$ 225.00	\$ 225.00
Interior Walls						
Remove Board and Batten Paneling	1	Lump			\$ 700.00	\$ 700.00
Remove Interior Sheathing and lath	1	Lump			\$ 700.00	\$ 700.00
Install Insulation (foil faced fiberglass blanket R-30): First Floor walls only	2,800	S.F	\$ 0.59	\$ 0.56	\$ 1.15	\$ 3,220.00
Install 3/8" GWB	3,600	S.F	\$ 0.46	\$ 2.10	\$ 2.56	\$ 9,216.00
Interior Paint	3,600	S.F	\$ 0.14	\$ 0.96	\$ 1.10	\$ 3,960.00
Stall Partitions (Repair wood)	6	EA	\$ 150.00	\$ 75.00	\$ 225.00	\$ 1,350.00
Stall Partitions (Refinish Metal)	6	EA	\$ 35.00	\$ 50.00	\$ 85.00	\$ 510.00
Interior Doors (Refinished and Painted)	1	EA	\$ 40.00	\$ 50.00	\$ 90.00	\$ 90.00
Interior Floors/Ceilings						
Fiberglass Batt Insulation 2" (In entry level floor)	2,288	S.F	\$ 0.44	\$ 0.76	\$ 1.20	\$ 2,745.60
Fiberglass Batt Insulation (In entry level ceiling)	2,288	S.F	\$ 0.44	\$ 0.76	\$ 1.20	\$ 2,745.60
First Floor Ceiling: GWB	2,288	S.F	\$ 0.46	\$ 2.10	\$ 2.56	\$ 5,857.28
Interior Paint	2,288	S.F	\$ 0.14	\$ 0.96	\$ 1.10	\$ 2,516.80
Remove First floor Flooring	1	Lump			\$ 700.00	\$ 700.00
First Floor flooring: 3/4" Plywood	2,288	S.F	\$ 1.54	\$ 1.14	\$ 2.68	\$ 6,131.84
First Floor Flooring: Rubber Tile 1/4" Thick	1,700	S.F	\$ 10.62	\$ 2.62	\$ 13.24	\$ 22,508.00
Stair Cases (Repair and Replace Structure and Riser/Treads)	1	Flight	\$ 1,200.00	\$ 464.70	\$ 1,664.70	\$ 1,664.70
First Floor Flooring: Entry Way and Kitchen Area (white oak wide boards finished)	400	S.F	\$ 5.05	\$ 4.35	\$ 9.40	\$ 3,760.00

Roof						
Gutter (Aluminum Painted) 5"	62	L.F	\$ 2.88	\$ 6.78	\$ 9.66	\$ 598.92
Sheathing (CDX, 3/8")	3472	S.F	\$ 0.76	\$ 0.96	\$ 1.72	\$ 5,971.84
Shingles , and Flashing, Ice and Water Shield	3472	S.F	\$ 1.04	\$ 1.53	\$ 2.57	\$ 8,923.04
Removal of Roof Shingles	1	Lump			\$ 1,500.00	\$ 1,500.00
Note: Total Removal of Roof/down to framing						
Services						
Plumbing: New Piping where needed (Inspected and updated per code)	1	Lump	\$ 200.00	\$ 450.00	\$ 650.00	\$ 650.00
Toilet	1	EA	\$ 80.00	\$ 40.00	\$ 120.00	\$ 120.00
Sinks (Kitchen and Bath)	2	EA	\$ 150.00	\$ 40.00	\$ 190.00	\$ 380.00
Fire Protection(Not Needed)						
Small heating System: 1 floor/hydronic with electric boiler	2288	S.F	\$ 7.22	\$ 9.85	\$ 17.07	\$ 39,056.16
Removal of Existing Electrical System	1	Lump			\$ 600.00	\$ 600.00
Electrical system installation: includes new wiring for first floor. In wall wiring and 4 recipitcles/1000sqft	2288	S.F	\$ 0.44	\$ 1.71	\$ 2.15	\$ 4,919.20
100 Amp with Circuit Breaker Electrical Distribution	1	EA	\$ 1,579.73	\$ 1,504.50	\$ 3,084.23	\$ 3,084.23
Miscellaneous						
Chimney Missing Units + Mortar	12	S.F	\$ 4.72	\$ 15.32	\$ 20.04	\$ 240.48
Cupola	1	Lump			\$ 500.00	\$ 500.00
Weathervane	1	Lump			\$ 350.00	\$ 350.00
Stair Lift(Not Needed)						\$ -
Excessive plant Growth Removal	1	Lump			\$ 600.00	\$ 600.00
Subtotal:						
					\$	198,443.89
Indirect Costs						
Contingency 30%					\$	59,533.17
Grand total					\$	257,977.06
Cost Per Inhabitable Square Foot (single level 2,288sqft)					\$	112.75

Table 5.6: Scenario 2B Cost Estimates

SCENARIO 2B		Cost Estate Horse Stable Rehabilitation Cost Estimate: Horse Stable with Addition (4/13/15)				
Note: Insulated Space is only first floor. Ceiling and Walls Insulated						
	Qty	Unit	Material O+P	Installation O+P	Total Unit Cost	Total Price
Foundation						
Foundation Patching (Cement Stucco, 1" thick, 3 Coats)	20	S.Y	\$ 0.26	\$ 4.36	\$ 4.62	\$ 92.40
Paints & Coatings (2 Coats)	300	S.F	\$ 0.22	\$ 1.28	\$ 1.50	\$ 450.00
Entry Level Floor Structure (Replace members)	1	Lump	\$ 800.00	\$ 1,200.00	\$ 2,000.00	\$ 2,000.00
Properly repair and fill in cracks in basement slab	1	Lump	\$ 200.00	\$ 300.00	\$ 500.00	\$ 500.00
Construct Footings, foundation walls and Slab for Addition	600	S.F	\$ 3.15	\$ 3.78	\$ 6.93	\$ 4,158.00
Exterior Walls						
Clapboard and Sheathing Removal and Disposal	1	Lump			\$ 2,500.00	\$ 2,500.00
Install New Sheathing (Plywood)	4,120	S.F	\$ 0.79	\$ 1.24	\$ 2.03	\$ 8,363.60
Weather Barrier	4120	S.F	\$ 0.05	\$ 0.20	\$ 0.26	\$ 1,071.20
Install New Clapboard 1/2"x8" (Red Cedar Wood)	4,500	S.F	\$ 4.57	\$ 1.78	\$ 6.35	\$ 28,575.00
Clapboard Paint/Stain/Seal	4,500	S.F	\$ 0.24	\$ 1.51	\$ 1.75	\$ 7,875.00
Windows (All Repaired and Repainted)	32	EA	\$ 150.00	\$ 200.00	\$ 350.00	\$ 11,200.00
Garage Door Replacement (Basement)	1	EA	\$ 800.00	\$ 250.00	\$ 1,050.00	\$ 1,050.00
Remove Plywood Covering Door and Window Openings	1	Lump			\$ 200.00	\$ 200.00
Sliding Barn Door (Repaired and Repainted)	1	Lump	\$ 250.00	\$ 250.00	\$ 500.00	\$ 500.00
Exterior Man Doors (Replaced with Steves & Sons 3 Lite Stained Mahogany Entry Door)	1	EA	\$ 800.00	\$ 250.00	\$ 1,050.00	\$ 1,050.00
Repair Door at Back of Barn	1	EA	\$ 150.00	\$ 75.00	\$ 225.00	\$ 225.00
Construct New Exterior Walls for Addition (2x6 Stud Construction: Includes insulation)	750	S.F	\$ 2.57	\$ 11.16	\$ 13.73	\$ 10,297.50
Interior Walls						
Remove Board and Batten Paneling	1	Lump			\$ 700.00	\$ 700.00
Remove Interior Sheathing and lath	1	Lump			\$ 700.00	\$ 700.00
Install Insulation (foil faced fiberglass blanket R-30): First Floor walls only	2,800	S.F	\$ 0.59	\$ 0.56	\$ 1.15	\$ 3,220.00
Install 3/8" GWB	3,600	S.F	\$ 0.46	\$ 2.10	\$ 2.56	\$ 9,216.00
Interior Paint	3,600	S.F	\$ 0.14	\$ 0.96	\$ 1.10	\$ 3,960.00
Stall Partitions (Repair wood)	6	EA	\$ 150.00	\$ 75.00	\$ 225.00	\$ 1,350.00
Stall Partitions (Refinish Metal)	6	EA	\$ 35.00	\$ 50.00	\$ 85.00	\$ 510.00
Interior Doors (Refinished and Painted)	1	EA	\$ 40.00	\$ 50.00	\$ 90.00	\$ 90.00
New Constructed Kitchen Walls and stalls on first floor and Gathering and Bathrooms in Basement (2x4 wood stud with 5/8" GWB Finish)	1,100	S.F	\$ 1.30	\$ 4.45	\$ 5.75	\$ 6,325.00
Install New Stall Door	2	EA	\$ 200.00	\$ 75.00	\$ 275.00	\$ 550.00

Install New Stall Door	2	EA	\$ 200.00	\$ 75.00	\$ 275.00	\$ 550.00
Interior Floors/Ceilings						
Fiberglass Batt Insulation 2" (In entry level floor)	2,288	S.F	\$ 0.44	\$ 0.76	\$ 1.20	\$ 2,745.60
Fiberglass Batt Insulation (In entry level ceiling)	2,288	S.F	\$ 0.44	\$ 0.76	\$ 1.20	\$ 2,745.60
First Floor Ceilng: GWB	2,288	S.F	\$ 0.46	\$ 2.10	\$ 2.56	\$ 5,857.28
Interior Paint	2,288	S.F	\$ 0.14	\$ 0.96	\$ 1.10	\$ 2,516.80
Remove First floor Flooring	1	Lump			\$ 700.00	\$ 700.00
First Floor flooring: 3/4" Plywood	2,288	S.F	\$ 1.54	\$ 1.14	\$ 2.68	\$ 6,131.84
First Floor Flooring: Rubber Tile 1/4" Thick	1,700	S.F	\$ 10.62	\$ 2.62	\$ 13.24	\$ 22,508.00
Stair Cases (Repair and Replace Structure and Riser/Treads)	2	Flight	\$ 1,200.00	\$ 464.70	\$ 1,664.70	\$ 3,329.40
First Floor Flooring: Entry Way and Kitchen Area (white oak wide boards finished)	400	S.F	\$ 5.05	\$ 4.35	\$ 9.40	\$ 3,760.00
Roof						
Gutter (Aluminum Painted) 5"	62	L.F	\$ 2.88	\$ 6.78	\$ 9.66	\$ 598.92
Sheathing (CDX, 3/8")	3472	S.F	\$ 0.76	\$ 0.96	\$ 1.72	\$ 5,971.84
Shingles , and Flashing, Ice and Water Shield	3472	S.F	\$ 1.04	\$ 1.53	\$ 2.57	\$ 8,923.04
Removal of Roof Shingles	1	Lump			\$ 1,500.00	\$ 1,500.00
Note: Total Removal of Roof/down to framing						
Services						
Plumbing: New Piping where needed (Inspected and updated per code)	1	Lump	\$ 200.00	\$ 450.00	\$ 650.00	\$ 650.00
Toilet	2	EA	\$ 80.00	\$ 40.00	\$ 120.00	\$ 240.00
Sinks (Kitchen and Bath)	2	EA	\$ 150.00	\$ 40.00	\$ 190.00	\$ 380.00
Fire Protection(Not Needed)						
Small heating System: 1 floor/hydronic with electric boiler	2288	S.F	\$ 7.22	\$ 9.85	\$ 17.07	\$ 39,056.16
Removal of Existing Electrical System	1	Lump			\$ 600.00	\$ 600.00
Electrical system installation: includes new wiring for first floor. In wall wiring and 4 recepticles/1000sqft	2288	S.F	\$ 0.44	\$ 1.71	\$ 2.15	\$ 4,919.20
100 Amp with Circuit Breaker Electrical Distribution	1	EA	\$ 1,579.73	\$ 1,504.50	\$ 3,084.23	\$ 3,084.23
Miscellaneous						
Chimney Missing Units + Mortar	12	S.F	\$ 4.72	\$ 15.32	\$ 20.04	\$ 240.48
Cupola	1	Lump			\$ 500.00	\$ 500.00
Weathervane	1	Lump			\$ 350.00	\$ 350.00
ADA Lift from Basement to Entry Level	1	EA			\$ 10,000.00	\$ 10,000.00
Excessive plant Growth Removal	1	Lump			\$ 600.00	\$ 600.00
Subtotal:						
					\$ 234,637.09	
Indirect Costs						
Contingency 30%					\$ 70,391.13	
Grand total					\$ 305,028.22	
Cost Per Inhabitable Square Foot					\$ 82.44	
(First Floor and Basement Space 3,700sqft)						

Table 7.6: 1B Stabilized Year Operating Statement

[illegible]

Table 9.6: 2B Stabilized Year Operating Statement

STABILIZED YEAR OPERATING STATEMENT: HORSE STABLE AND TRAINING FACILITY 2B												
Category	Monthly Cost	Annual Cost										
Income Revenue												
	Stalls	# of Months Rented	Boarding	Basic Rate	Training Rate	Private Hour Rate	Lessons	Group Hour Rate	Weekly Rate	Summer Camps	1-10 Children	10+ Children
							Private 1/2 hour rate			Daily Rate		
Summer (May-October)		6		\$683.00	\$991.00	\$78.00	\$48.00	\$51.00	\$325.00	\$71.00	\$171.520 per child + \$71.00	
Winter (November-April)		8		\$683.00	\$991.00	\$78.00	\$48.00	\$51.00	\$0.00	\$0.00	\$0.00	
Summer Income Total:				\$24,588.00	\$35,676.00	\$4,212.00	\$2,880.00	\$918.00	\$15,600.00	\$568.00	\$2,052	
Winter Income Total:				\$32,784.00	\$47,568.00	\$468.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total Per Income Revenue:					\$140,616.00	\$7,752.00			\$16,168.00		\$2,052	
Gross Scheduled Income (GSI)												
Less Vacancy				\$314,112.00	\$361,144.00		\$33,264.00		\$15,600.00		\$4104.00	
Effective Gross Income (EGI)												
				\$42,046.80	\$28,114.40		\$13,305.60		\$780.00		\$1848.80	
Fixed Expenses												
				\$272,065.20								
Property Taxes	\$0.00			\$0.00								
Insurance	\$785.33			\$9,423.96								
Care, custody, and control (\$8.33 per horse)	\$108.29			\$1,299.48								
Riding Instruction (\$8.33 per horse)	\$108.29			\$1,299.48								
Liability Insurance (\$33.33 per horse)	\$433.29			\$5,199.48								
Workman's compensation (\$10.42 per hor.)	\$135.46			\$1,625.52								
Land Lease	\$1,666.00			\$20,000.00								
Other Fixed expenses												
Variable Expenses												
Administrative Costs	\$0.00			\$0.00								
Telephone	\$8.32			\$99.84								
Property Management												
Director / Advisor (Full Time)	\$4,610.00			\$55,320.00								
Office Manager (Full Time)	\$2,160.50			\$25,926.00								
Utilities												
Water (\$5 per horse/month)	\$65.00			\$780.00								
Electrical (\$5 per horse/ month)	\$65			\$780.00								
Sewer	\$0.00			\$0.00								
Repair and Maintenance												
(3% of Total Rehabilitation Cost)				\$15,251.42								
Labor												
Stable Assistants (part Time) 2	\$88.72			\$40,529.28								
Horse Trainers (plus board)	\$1,600.00			\$38,400.00								
Supplies												
				\$175.71								
Feed Concentrate	\$29.20			\$4,555.20								
Bedding (Shavings \$4.58 per bale)	\$91.25			\$6,570.00								
Salt (Block or Brick)	\$0.50			\$78.00								
Supplements (\$0.25 \$0.50 per day)	\$91.3			\$1,424.28								
Hay (\$2.56 per bale)	\$45.63			\$7,118.28								
Veterinary Expenses												
Vaccinations/Wormers	\$10.00			\$10,920.00								
Veterinary Care	\$60.00			\$1,560.00								
Reserves for Replacement												
2% of Building's Total Value				\$7160.00								
Total Expenses												
Net Operating Income (NOI)												
				\$173,456.26								
				\$88,608.94								
CASH FLOW												

13 total stalls in Scenario 2A
 Basic Rate includes feed, board, groom
 Training Rate includes basic rate + training lessons
 Summer camps operate July-August and can accommodate 6 campers